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FOUNDATION INVESTIGATION OF THE UPSTREAM SWITCHYARD OF WILSON DAM POWERPLANT: MICROGRAVITY SURVEY

by

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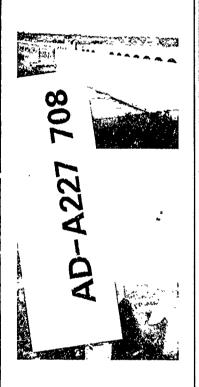
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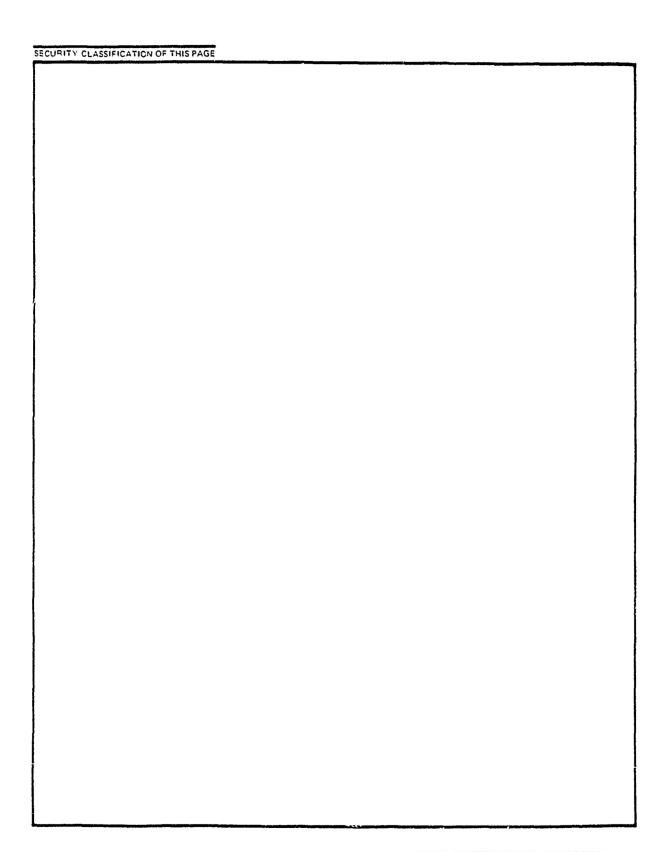
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SECURITY CLASSIFICATION OF THIS . GE					
REPORT E	N PAGE		Form Approved OMB No. 0704-0188		
1a. REPORT SECURITY CLASSIFICATION		1b RESTRICTIVE MARKINGS			
Unclassified 2a, SECURITY CLASSIFICATION AUTHORITY		3 DISTRIBUTION/AVAILABILITY OF REPORT			
		Approved for public release;			
26. DECLASSIFICATION/DOWNGRADING SCHECULE		distribution unlimited			
4 PERFORMING ORGANIZATION REPORT NUMBER(S)		5 MONITORING ORGANIZATION REPORT NUMBER(S)			
Miscellaneous Paper GL-90-19					
6a. NAME-OF PERFORMING ORGANIZATION USAEWES	6b OFFICE SYMBOL (If applicable)	7a. NAME OF MO	NITORING ORGANIA	NOITA	
Geotechnical Laboratory	CEWES-GG-H				
6c. ADDRESS (City, State, and ZIP Code)		7b. ADDRESS (City, State, and ZIP Code)			
3909 Halls Ferry Road Vicksburg, MS 39180-6199					
8a. NAME OF FUNDING/SPONSORING ORGANIZATION	8b OFFICE SYMBOL (If applicable)	9. PROCUREMENT	INSTRUMENT IDEN	TIFICATION NUMBER	
Tennessee Valley Authority	MR-35-116D-C	Contract N	o. TV-78058A	; dtd 22 May 1989	
8c. ADDRESS (City, State, and ZIP Code) 1101 Market Street		10 SOURCE OF FU		ASK WORK UNIT	
Chattanooga, TN 37402-2801		ELEMENT NO.		NO. ACCESSION NO	
11. TITLE (Include Security Classification)	h	-1	1 D D	1	
Foundation Investigation of t Survey	ne upstream swit	cnyard of wi	ISON DAM POW	erpiant: Microgravio	
12. PERSONAL AUTHOR(S)			**************************************		
Yule, Donald E.; Butler, Dyai	n K.; Sharp, Mic	hael K.			
13a. TYPE OF REPORT 13b. TIME CO Final report FROM		14 DATE OF REPOR		y) 15. PAGE COUNT 71	
Final report FROM 16. SUPPLEMENTARY NOTATION	0	September .	1990		
Available from National Techn	ical Information	Service, 52	85 Royal Roa	d,	
Springfield, VA 22161					
17 COSATI CODES	2	Continue on reverse if necessary and identify by block number)			
FIELD GROUP SUB-GROUP	Cavity detecti Foundation inv				
	Geophysical in	-	Micrograv	ity	
19. ABSTRACT (Continue on reverse if necessary					
A microgravity survey consisting of 347 stations was conducted in the upstream switchyard of the Wilson Dam powerplant. The objective of the survey was the detection of subsurface cavities or other anomalous conditions that could threaten the integrity of the switchyard structures. Six anomalous areas were identified on the gravity anomaly map and ranked for their interpreted significance. From these results, nine boring locations were selected to investigate the cause of the anomalies. This report presents details of the field survey, data processing interpretations, and recommended drilling locations for subsurface investigation.					
20. DISTRIBUTION / AVAILABILITY OF ABSTRACT UNCLASSIFIED/UNLIMITED SAME AS I	2) ABSTRACT SECURITY CLASSIFICATION Unclassified				
22a. NAME OF RESPONSIBLE INDIVIDUAL	RPT DTIC L SERS	22b TELEPHONE (/	nclude Area Code)	22. OFFICE SYMBOL	

DD Form 1473, JUN 86

Previous editions are obsolete

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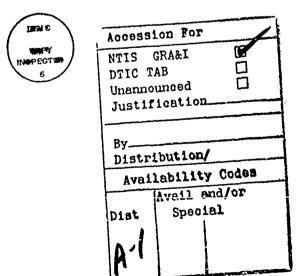
<u>Preface</u>

This report documents the microgravity survey conducted by the US Army Engineer Waterways Experiment Station (WES) for the Wilson Hydro Project Upstream Switchyard Subsurface Investigation, Wilson Dam, Florence, AL. The work was performed during the period 1 August through 31 December 1989 for the Tennessee Valley Authority (TVA), Power Engineering and Construction, Fossil and Hydro Engineering, Civil Engineering Department, Chattanooga, TN.

Mr. Harold L. Petty, Civil Engineering Department, Power Engineering and Construction, TVA, was Project Monitor for this work.

Mr. Donald E. Yule of the Earthquake Engineering and Seismology Branch (EESB), Earthquake Engineering and Geosciences Division (EEGD), Geotechnical Laboratory (GL), WES, was the Project Engineer for this study. Mr. Michael K. Sharp and Dr. Dwain K. Butler, Engineering Geophysics Branch (EGB), EEGD, GL, were coinvestigators and co-authors of this report. Dr. Butler provided overall technical supervision for this study. The work was conducted under the direct supervision of Mr. Joseph R. Curro, Jr., Chief, EGB; Dr. Mary Ellen Hynes, Chief, EESB; and Dr. Arley G. Franklin, Chief, EEGD. The project was under the overall supervision of Dr. William F. Marcuson III. Chief, GL.

COL Larry B. Fulton, EN, was Commander and Director of WES during the investigation. Dr. Robert W. Whalin was Technical Director.



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Conversion Factors, Non-SI To SI (Metric) Units Of Measurement

Non-SI units of measurement used in this report can be converted to SI (metric) units as follows:

Multiply	By	<u>To Obtain</u>
degrees (angle)	0.01745329	radians
feet	0.3048	metres
inches	2.54	centimetres
miles (US statute)	1.609347	kilometres

FOUNDATION INVESTIGATION OF THE UPSTREAM SWITCHYARD OF WILSON DAM POWERPLANT: MICROGRAVITY SURVEY

Summary

1. A microgravity survey consisting of 347 stations was conducted by personnel of the US Army Engineer Waterways Experiment Station (WES) in the upstream switchyard of Wilson Dam powerplant during August 1989. The objective of the survey was the detection of subsurface cavities or other anomalous conditions which could threaten the integrity of the switchyard and continuing operation of the powerplant. Preliminary results of the survey were forwarded to the Tennessee Valley Authority (TVA) in September 1989. Six anomalous areas were identified on the gravity anomaly contour map, and nine boring locations were selected to investigate the cause of the anomalies. anomalies were ranked according to their interpreted significance. boring location recommendations were in negative gravity anomaly areas, since negative anomalies could be caused by actual cavities or low density zones which might represent incipient cavity formation. The remaining boring location was in a positive anomaly area for verification purposes. Based on their familiarity with switchyard conditions, TVA personnel added two boring locations to a proposed subsurface investigation program (TVA 1989). report presents details of the field survey, data processing, interpretations, and recommendations.

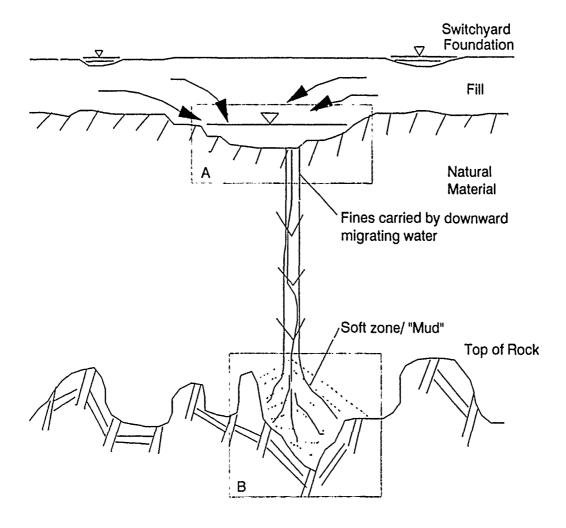
Background

2. In 1974, a cavity was discovered in foundation fill material beneath the upstream switchyard of Wilson Dam powerplant. The cavity was about 10 ft* in diameter, extended to within 2 ft of the surface, and was manifested by a surface depression. After filling the cavity with concrete, subsequent exploratory drilling encountered no further cavities beneath the original cavity and above the top of rock. Rock (limestone) was encountered at depths of 38 to 57 ft. Cavities up to 1-1/2 ft in vertical extent were

^{*} A table of factors for converting non-SI units of measurement to SI (metric) is presented on page 4.

encountered in the limestone. Concern about the possible existence of other cavities beneath the upstream as well as the downstream switchyard led to a geophysical investigation of the switchyards to detect anomalous foundation conditions. Although other geophysical methods were considered and even field tested (resistivity and seismic methods), microgravity surveying emerged as the only viable geophysical method for application under the severe constraints posed by the above- and below-ground features in the switchyard.

- 3. In September 1983, WES conducted a microgravity survey of the Wilson Dam powerplant switchyards. Due to maintenance activities in the upstream switchyard, only a limited survey was possible in the immediate vicinity of the known, filled cavity. The survey consisted of 265 gravity stations in the downstream switchyard and 23 stations in the upstream switchyard. The report on this work (Butler and Yule 1984) presents a gravity anomaly map with several anomalies identified that were prioritized for a verification drilling program. Negative anomalies, which might represent gravity signatures of cavities, were interpreted to give probable depth ranges and maximum depths for the subsurface feature causing each anomaly. Of the 16 borings placed to investigate anomalous conditions, 4 encountered a mud (saturated) zone above the top of rock, 1 encountered a soft zone at a depth consistent with the gravity interpretation, and 1 encountered a significant zone (about 30 ft thick above the top of rock) described as "very soft, possible void." The remainder of the borings, including three placed in positive anomaly areas, were described as encountering no voids. Most of the holes were placed with a power auger, which made it difficult to determine the actual condition of subsurface materials, although true voids should have been evident.
- 4. Results of the microgravity survey and the verification drilling program led to a postulated mechanism for the formation of cavities in the foundation fill material. The microgravity survey detected well-defined negative (low) gravity anomaly areas, indicative of localized low density conditions in the subsurface. The verification drilling program detected noticeably "soft" zones during drilling and in several instances encountered "mud" zones ranging from 2 to 10 ft just above the top of rock. These results suggest the conceptual model shown in Figure 1, where the low gravity anomalies are produced as a result of piping of fill material downward by infiltration of waler collecting in shallow surface depressions or water seeping from localized leaks (cracks) in concrete-lined channels and conduits. The water and sediment collect in grikes or depressions of the pinnacled



MODEL:

- 1) During rainfall, water is "ponded" in depressions.
- 2) This water then flows into a subsurface feature "A" which has a flow path to the bedrock.
- 3) Fines are carried downward by groundwater.
- 4) Softzone or "mud" is formed at top of rock and a void begins to form at depression "B". This means A and B could be the start of a cavity formation.

Figure 1. Proposed mechanism for cavity formation in switchyards

limestone surface and eventually find their way into the solution-widened fractures and joints and cavities of the karst "drainage system" of the limestone.

5. There is still concern over the possible existence of cavities beneath the upstream switchyard, heightened by the formation of shallow surface depressions where water collects for short periods after each rainfall. This concern led to the microgravity survey of the upstream switchyard documented in this report. The TVA requested the present survey in order to rationally plan subsurface exploration for the detection of cavities in the switchyard foundation. Drilling in the switchyards is hazardous due to the dense network of overhead structures (including high voltage cables) and underground conduits. Thus, now, as was the case for the prior drilling program in the downstream switchyard, random drilling is ill-advised and rational placement of boreholes is a must.

Survey Details and Field Procedures

6. The general location of the switchyard and survey grid is presented in Figure 2. This figure also shows the grid coordinate system used in the data plots and its correlation with the land survey coordinate system. The survey grid was established and elevations determined by a TVA survey team, and the microgravity measurements were performed by WES personnel. The grid consisted of 347 stations. At each station a 2- by 2-in. stake was driven flush with the ground surface. Elevations of the top of the stakes were determined with an accuracy of 0.01 ft. A basic grid dimension of 10 fc was used in the interior of the area, around all major structures, and modified as required by locations of concrete foundation pads and cable trenches; in the easternmost portion of the area, the grid dimension was increased to 20 ft. Figure 3 shows the survey grid superimposed on a simplified map of the upstream switchyard which shows locations of the major features. Figure 4 is a view of the upstream switchyard showing the survey grid. The aboveground stakes are offset from the station location, are labeled with station coordinates, and allow rapid station location during the micro-gravity survey. Station L8, coordinates (x,y:100,110), was established as the gravity base station.

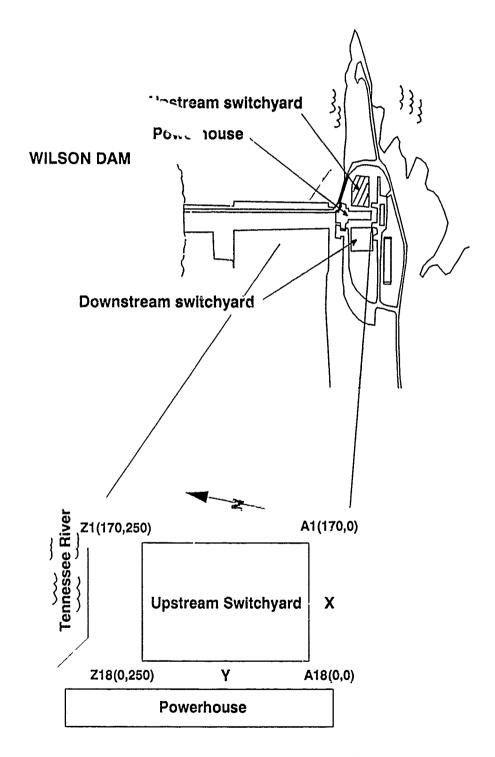
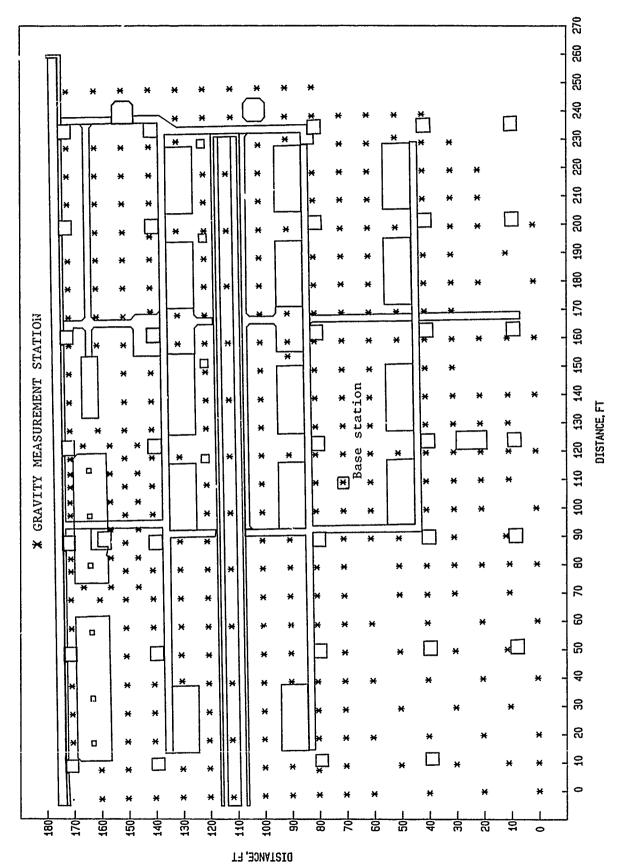


Figure 2. Location and general layout of survey grid



Gravity measurement stations for upstream switchyard survey Figure 3.



Figure 4. Views of upstream switchyard survey grid

7. Details of microgravity survey field procedures are given in Butler (1980) and Butler and Yule (1984) and will only be briefly summarized here. The survey was conducted in "zigzag" segments or loops called programs. A program consists typically of 6 to 10 gravity station measurements between two successive occupations of the base station. Each p ram was completed in 30 to 45 min. Base station reoccupations are used .. Lorrect the survey data for time-varying gravity values due to earth tides and instrument drift. A concave gravity meter baseplate was installed at the base station and left in place during the entire survey. A separate baseplate was used for all other masurements. Each program typically includes one or more stations that were occupied during a previous program. During the upstream microgravity survey 33 percent of the stations were reoccupied (two or more measurements). Comparison of the repeat values, after correction for the factors described in the following section, allowed the quality and accuracy of the data to be monitored during the course of the survey. The data acquisition required 5 days.

Data Corrections

8. Required corrections to gravity data are thoroughly discussed in Butler (1980). Briefly, the corrections are necessary due to time variations of gravity, latitude and elevation differences between stations, and the effects of topographic features. If all the corrections are properly applied, variations in gravity values, on a corrected gravity contour map for example, will be due solely to variations in subsurface conditions beneath the survey area.

Meter factor

9. The meter factor for LaCoste and Romberg Model D-130 gravimeter used for the survey is 1.08008. Multiplying each gravity measurement by the meter factor converts the value from meter units to gravity units, mGal, where $1 \text{ Gal} = 1 \text{ cm/s}^2$; $1 \text{ mGal} = 10^{-3} \text{ Gal}$. Strictly speaking, the meter factor multiplication is not a correction, but it is a necessary step in the data processing sequence.

Correction for time variation

10. Gravity variations with time for the entire site is assumed to be the same as at the base station. All gravity measurements in a program are corrected for time variations by linear interpolation using the base station

values at the beginning and end of the program. The quality and consistency of the base station time variations are determined by comparison to theoretical and measured earth tide variations for the site. Theoretical earth tide variation was computed in advance for the period of the field work. During the field work, a measured earth tide was obtained by connecting the gravity meter to a chart recorder, securing the gravity meter in a locked shed on site, and recording the earth tide each night.

Latitude correction

11. The latitude correction compensates for the normal variation in gravity over the Earth in a north-south direction. A reference latitude of 34.5 deg is used for the site. The correction that is then applied to the data is 0.23 μ gal/ft north-south distance from the base station, where the correction is subtracted if a station is north of the base station and added if a station is south of the base station.

Free-air correction

12. The free-air correction accounts for the normal variation of gravity with elevation, and for small-scale surveys the correction is made relative to the elevation of the base station. The correction is given by $94.04 \times h' \mu gal$, for h' in feet, where h' is the elevation difference of a station relative to an elevation datum, which is chosen to be the base station elevation. If a station is higher in elevation than the datum, the correction is added, and subtracted if lower.

Bouguer correction

differing masses of material beneath stations due solely to elevation differences. The correction is calculated using $12.77 \times D \times h'$ μ gal where D is the bulk density of the near surface materials in grams per cubic centimetres and h' is the elevation difference in feet between the gravity station and a reference datum. For this survey, a bulk density of 1.8 g/cm^3 is used, and the elevation of the base station is chosen again as the datum elevation. If a station elevation is above the datum, then this correction is subtracted and added if lower.

Terrain correction

14. Terrain correction compensates station gravity values for the attraction of nearby topographic variations and other terrain features. Within the upstream switchyard gravity grid area, the only terrain corrections that must be considered are for the transfer track trench and the aboveground

switchyard structures. During the previous gravity survey of the downstream switchyard, careful consideration was given to the terrain effects of the switchyard structures. Gravity measurements were made around one of the transformers in an effort to detect its gravity effect, gravity anomalies were calculated for a simple model of a transformer, and an overlay of the "nonterrain corrected" gravity anomaly map and a switchyard structure location map was examined for correlations. These efforts indicated that the effect of a transformer on gravity measurements is less than 5 μ Gal for distances greater than 10 ft from the base and that the net effect of the dense assemblage of structures must be approximately constant over the interior of the survey grid, since there is no correlation between structure locations and gravity anomalies.

- 15. Outside the survey area, there are significant topographic variations that cannot be ignored. There are large drop-offs on the north and east boundaries of the survey area. As demonstrated in the previous work for the downstream switchyard, this type topographic variation can be treated as a component of the local regional field variation and corrected in a regional/residual field separation step (Butler 1980). The local regional field can be determined by row and column data averaging, polynomial surface fitting, or by modeling (Butler and Yule 1984, Butler 1985). This procedure for the upstream switchyard survey is discussed in the next section. In the geophysical literature, the following terminology is used:
 - <u>a</u>. Bouguer gravity anomaly map--gravity data corrected for the factors in paragraphs 9-14 plus the terrain correction.
 - $\underline{\mathbf{b}}$. Residual gravity anomaly map--the "remainder" after a regional gravity map field component is removed (subtracted) from the Bouguer gravity data.

The procedure used here effectively accomplishes the terrain correction and regional field removal in a single step.

Data Processing

16. Gravity data processing is computational intensive because of the many corrections made and unwanted influences that must be removed. Currently, with the advent of powerful field portable microcomputers, personal workstations, and software, these obstacles have been overcome allowing the microgravity method to be a feasible and important engineering geophysical tool. A software system has been under development at WES that has

facilitated the data processing for this study.* Processing of the raw or measured gravity data can be divided into two stages, field processing and office processing. A flowchart presenting the procedure for data correction and processing is presented in Figure 5.

Field_processing

17. Because of the necessary high accuracy and precision of the gravity measurement at each station, stringent controls during the data collection phase are employed to ensure that a good data set is obtained. The field processing is composed of applying the normal corrections to the gravity readings, compiling a master grid of all the readings, and plotting these values on a grid map. This map is then inspected for agreement of repeat measurements and anomalous high or low readings. This procedure is instituted daily to allow modifications of the data collection programs to investigate inconsistencies in the data. The results of the field processing stage, collected data and the applied corrections, are presented in program segments in Appendix A.

Office processing

- 18. The office processing phase consists of final processing of the master grid and applying the terrain correction and site-regional residual removal. The end product of this step is called the residual gravity map. The residual gravity map is used for anomaly selection and interpretation. The first step in the office processing is to process the master grid developed in the field. This is done through an interactive on-screen procedure that allows moving through the grid stations, in which all data and their source programs and those of their neighbors are viewed. For each station, options exist to average, select, or correct the station values, out of which one value is then written to a final grid file, which reduces the data set to one gravity value for each measurement station. It is this data set that is used in subsequent data processing.
- 19. The next step involves removing the effects of the local regional gravity field component and surrounding terrain effects. There are several methods available to accomplish this task. A direct approach is to analytically calculate the mass effects of surrounding terrain and shallow

^{*} Donald E. Yule and Michael K. Sharp, 1989, "GRAVD: Gravity Data Collection and Analysis Software," Open File-Draft Report, "S Army Engineer Waterways Experiment Station, Vicksburg, MS.

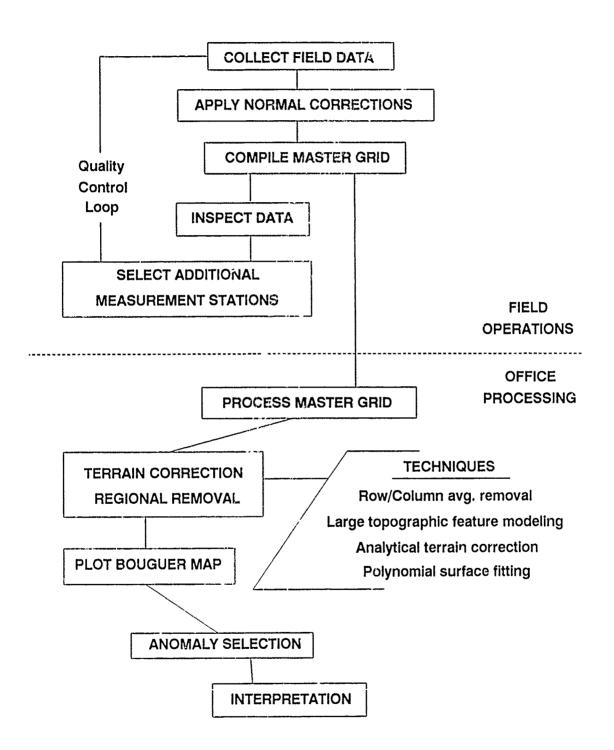


Figure 5. Gravity survey data correction and processing flowchart

geologic structure for each measurement station. While these methods are the most direct and rigorous, they require additional elevation data to define the surrounding terrain and much detail of the geologic structure below and around the survey area, which is difficult to obtain. Another approach, which relies only on the gravity data set, is possible if there is a heavily populated, uniformly distributed data set for the survey area. With sufficient data, "best-fitting" surfaces can be generated for the Bouguer gravity map. Correcting the gravity data by removing a "best-fitting" surface through the data accomplishes the local regional-residual separation and corrects for effects of terrain outside the survey area. The degree of the surface removed from the data determines the spatial wavelengths of the anomalies that will be removed and which will be passed. It is desirable to remove spatial wavelengths of the order and greater than the survey grid dimensions from the residual gravity map. Since the spatial wavelength is proportional to the depth of the causative subsurface feature, these procedures result in a residual map that contains gravity anomalies caused predominantly by subsurface features shallower than the mean survey area dimension in depth.

- 20. A first-order approach to define and remove the site regional and correct for nearby terrain is to use a row and column average removal technique. This a good first approach and works well if the regional has components that are broad and well defined in one direction, especially if the direction coincides with a grid axis. This approach was successfully implemented in the removal of the river bluff effect in the survey of the downstream switchyard. However, "corner effects," anomalous areas generated at the corners of the grid, were noticed as a result of this type regional separation for the upstream switchyard data set. This results from the coupling effect of removing two dependent parameters, row and then column averages derived from the same data set. The "corner-effects" are easily recognizable.
- 21. A more sophisticated and versatile approach is to model the gravity data with a surface defined by a polynomial function in place of row and column averages. Recent advances in efficient algorithms for determining polynomial surface fits to spatial data have made these computations rapid and accessible to microcomputers (Balch and Thompson 1989). This approach is advantageous in that it does not have the limitations discussed above. This method can account for more complicated regional field geometries with no preference to regional features aligned with the grid axes. Also, the amount

of filtering or detail of the measured gravity surface that will be removed can be easily adjusted by varying the degree of the polynomial equation that is used to fit the regional surface.

22. After the regional separation step is accomplished, the resulting residual gravity map is studied to identify anomalies. This is a judgmental phase in which relative high and low gravity areas are selected for subsequent investigation. It should be noted that the resulting anomalies, particularly their magnitudes, are a function of the selected regional surface fit. The regional surface defines the local reference level over the site from which depart relative high and low gravity areas. However, if the anomalies are detectable, the possible error caused by selecting an arbitrary reference surface is to incorrectly estimate the size and depth of the subsurface feature causing the anomaly; the xy(plan) location of the feature is relatively unaffected.

Data Presentation

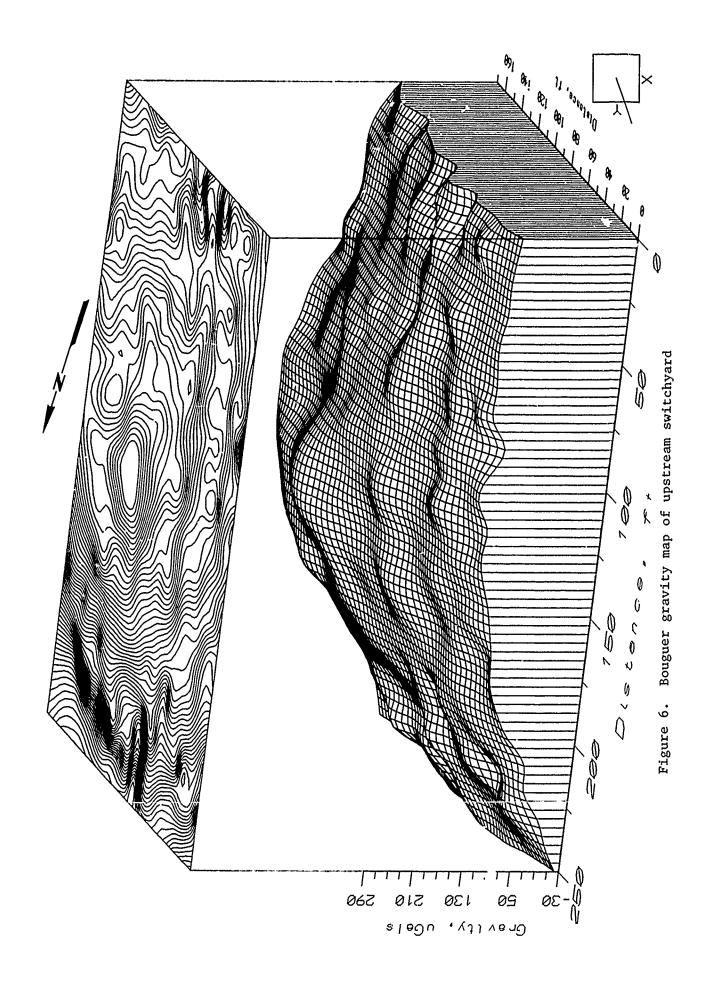
23. Data presentation is accomplished in two forms: two-dimensional (2-D) contour maps of the gravity data and three-dimensional (3-D) representations of the 2-D contour maps. The 3-D plots are important for obtaining a general perspective of the surface trends and also provide a more visually receptive display of the data. These plots also provide a view that is helpful in discerning anomalies from a complex regional gravity field. With the introduction of these 3-D plots, the viewing angle is important to orient the observer to enable comparisons with other views and plots. This is accomplished by a legend on each plot which consists of a small inset square box representing the grid. The legend displays the viewing angle with a line extending into the legend grid in the appropriate viewing direction. The 2-D contour plots are best suited for anomaly selection, location, and magnitude determination. A color mapping scheme has been employed when appropriate to enhance the data presentation. Red indicates areas of negative gravity anomalies with negative (-) values of less than -10 μ gals. Black maps the area of data from -10 to 10 μ gals, which is the area in which readings are close to the background value of 0 and judged to be insignificant. Green mapping represents positive anomaly gravity values greater than +10 μ gals.

Regional-Residual Field Separation

24. The gravity data were corrected for all normal corrections except the terrain correction, and the resulting data set is given in Appendix A. The master file gravity data set was derived from these data and is plotted in Figure 6. This figure is a stacked 2-D plot on a 3-D plot. The regional and terrain effects are evident as the broad surface trends, and the scattered, relatively small surface deviations are possible gravity anomalies caused by shallow, subsurface density anomalies. The purpose of the subsequent processing is to remove this broad trend, substantial decreases in the gravity to the north and west, and enhance and uncover localized deviations from this overall trend. Two separate methods were employed to accomplish this task, row/column average removal and polynomial surface fitting.

Row/column average removal

25. Row/column average removal, as discussed previously, involves finding the grid row and column averages and then subtracting these quantities from each gravity station. This procedure is done in two steps. First, the longest grid dimension, column averages, is subtracted from each station value using the corresponding column average value. This resulting data set is then processed further by recalculating the row averages and then subtracting these averages from the column average adjusted gravity station value using the corresponding short axis, row average. The intermediate and final results are compared to make sure no major artifacts of processing are introduced. processing steps and their effects are presented in Figure 7. The original trends in the data, row and column averages, are shown by curves A1 and A2. After the first step, removal of the column averages, curves B1 and B2, the new row and column averages, are plotted. Curve B1 shows that the north-south regional trend has been effectively removed, and curve B2 shows that the east/west trend has been reduced in magnitude, shifted downward on the plot, and smoothed. The curves Cl and C2 reflect the final results and are the result of subtracting the row averages shown in curve B2 from the adjuste" gravity station data set, then recalculating the row and column averages, and plotting as curves Cl and C2, respectively. The regional trends have been greatly reduced in magnitude and smoothed. The final curves do show a small increase in scatter, which indicates the possible introduction of processing artifacts in the data. Overall, this technique has been successful in removing the local regional trends and is presented in Figure 8.



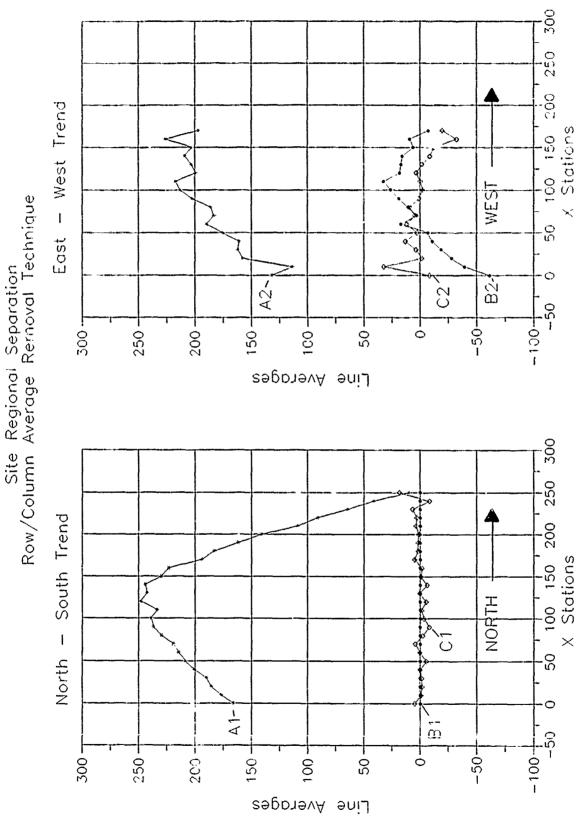
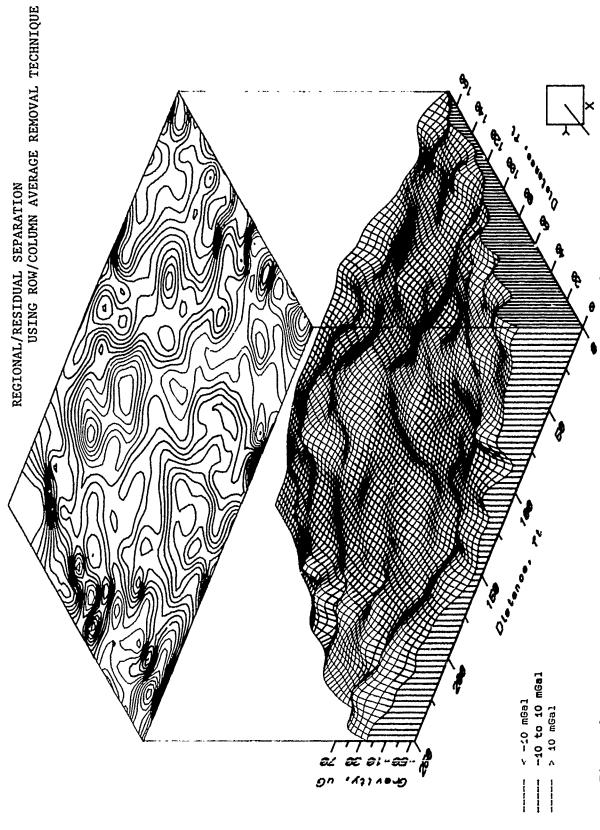


Figure 7. Site regional-residual separation using row/column average removal technique



Residual gravity map using row/column average separation technique Figure 8.

resulting gravity plot shows a positive or gravity high ridge that runs southwest to northeast through the grid. There are gravity lows in the southeast and northeast corners which are probably amplified by "corner effects" that were discussed earlier.

Polynomial surface fitting

- 26. The second method employed to accomplish the local regional/residual field separation was polynomial surface fitting. In this method, a mathematical surface was generated to fit the nonterrain corrected Bouguer gravity data using a polynomial equation of various orders. Because of the nature of the regional surface as shown in the two views, AB and BA, in Figure 9, a third-order polynomial surface was initially postulated. However, fourth- and fifth-order surfaces were also generated to model the regional field. Their calculated degree of fit, 86.5, 90.3, and 90.9 percent, for a third-, fourth-, and fifth-order fit, respectively, which are measures of how well they approximate the original surface, lead to the conclusion that the fourth-order fit is most appropriate. The calculated surfaces to model the regional trend are shown in two views for each surface in Figure 10.
- 27. The fourth-order residual gravity anomaly map (obtained by subtracting the fourth-order "best-fit" surface (Figure 10) from the Bouguer anomaly map (Figure 9)) is shown in Figure 11. The resulting residual gravity map is similar to the map derived from row/column removal. The major differences are changes in the amplitudes and general appearance of some of the features. Also, the low gravity regions in the corners have been reduced in size. The high ridge running diagonally is still evident, but the broad low region along the west grid boundary has been removed. There are two strong negative regions on the east boundary. These results will be used in conjunction with the row/column average removal results for anomaly selection and assessment.

Anomaly Selection and Assessment

28. Anomalous zones were identified based on whether they exceeded a threshold level ($\pm 10~\mu \rm gals$), possessed areal coherency, and were unexplained. Rankings of anomaly importance were based on the following considerations: location near critical structures or the known past sink hole and anomaly sense. A negative residual gravity anomaly could be caused by subsurface carities whether air, water, or clay filled if it is within rock.

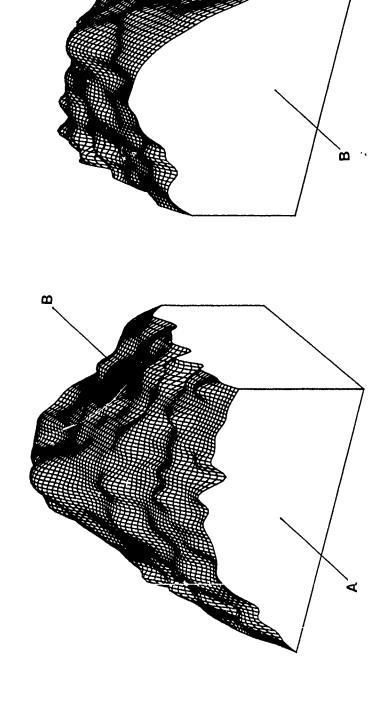


Figure 9. Presentation of site gravity surface before site regional-residual separation

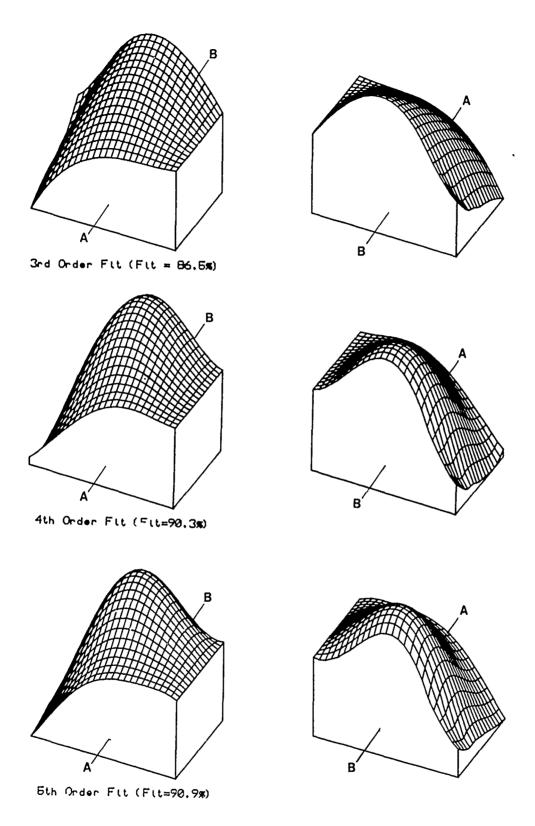


Figure 10. Polynomial surface fit models for the site regional field

Furthermore, low density areas relative to normal foundation conditions could indicate weak foundation conditions or incipient cavity formation. Therefore, negative anomalies are of critical interest for this survey, whereas verifying the positive anomalies are useful in determining the correctness of the data processing and help in explaining general subsurface conditions. Further emphasis is attached if both methods of regional/residual field separation show the same anomalous feature.

- 29. The residual gravity maps with anomalous zones delineated and suggested investigation positions annotated are presented in Figures 12 and 13 for the row/column average removal and polynomial surface fitting techniques, respectively. The anomaly areas have been prioritized into class "A"-highest and "B"-secondary. All class "A" are negative anomalies while class "B" includes one (B2) positive anomaly.
 - <u>a</u>. Al--This negative anomaly was selected because of its location near the old sinkhole location. This anomaly is evident from both separation techniques.
 - $\underline{\mathbf{b}}$. A2--This low region was picked because of its location near critical structures and area A1. Two exploratory locations were recommended because of its size and the two distinct negative expressions shown in Figure 12. This anomalous region was removed when processed using polynomial surface fitting and is seen in Figure 13 as within the background range of $0\pm10~\mu\mathrm{gals}$.
 - c. A3--This region was chosen because of its significant areal extent and relatively high negative amplitude. Two exploratory locations were recommended based upon the row/column average separation method (Figure 12). This area is again strongly evident after the polynomial surface fitting technique (Figure 13). This latter processing suggests that the location of one of the investigative areas be moved slightly southwest to coincide with the plan location of the maximum anomaly.
 - d. A4--This low region appeared as the result of the polynomial surface fit regional separation (Figure 13). Because this area extends into the grid, it does not have the appearance of a "corner-effect" and therefore is ranked as a category "A."
 - e. B1--This negative region was given a lower ranking because of ts location near the corner of the switchyard and the difficulty of accurately removing the terrain effects for this type geometry. This effect is evident in the 160, 250 grid corner. Processing using a polynomial surface fit has reduced the size of this region leaving negative anomalies along the edges of the survey grid.
 - \underline{f} . B2--This positive anomaly was selected to verify and explain the trend of high gravty values extending diagonally across the

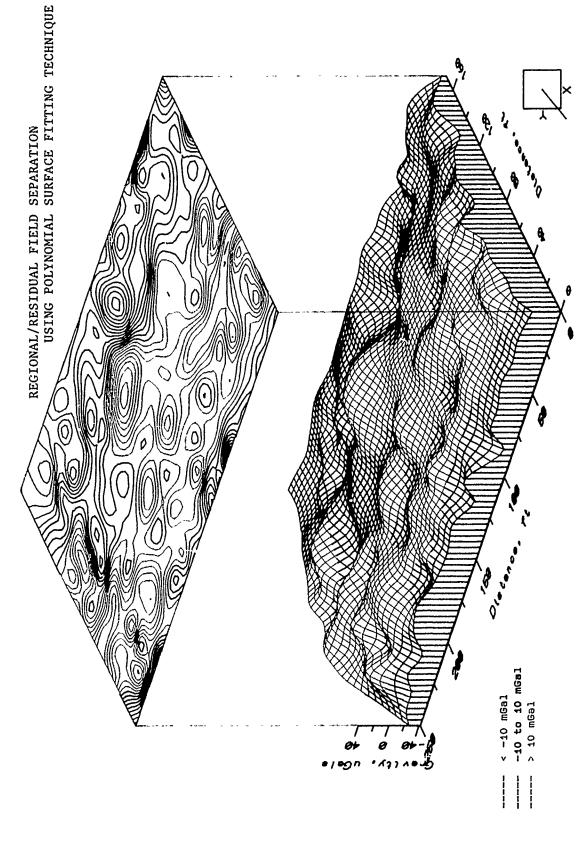


Figure 11. Residual gravity map using polynomial surface fitting separation technique

RESIDUAL GRAVITY MAP

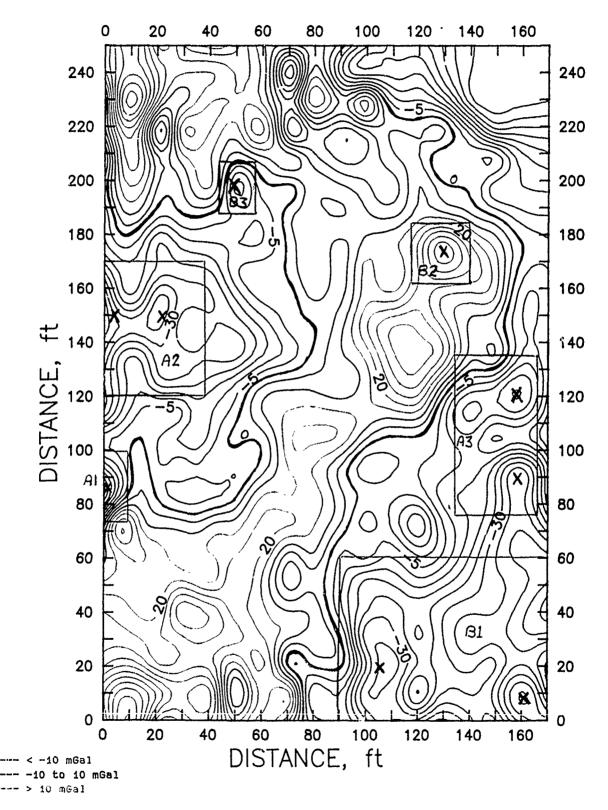


Figure 12. Anomaly selection in upstream switchyard. Regional-residual field separation using row/column average removal techniques

- grid. However, the alternate processing technique places the location of a high to the southwest. This adjusted location is better because it appears on both residual maps.
- g. B3-This anomaly was selected because it was negative but was given a low priority because of its small area and low magnitude as shown in Figure 12. This feature is again present in Figure 13, but its magnitude has been raised within the selected background range of 0 \pm 10 μ gals after the polynomial surface processing.

Several anomalous zones were not recommended for initial investigation because of their noncritical nature, such as the high positive region centered at (x,y:7,235), or because they can be explained, such as the negative anomaly at (x,y:70,240) caused by the cable pit beneath that area.

30. All of the closed contour anomalies identified above are caused by shallow density anomalies. It is difficult to compute depths for individual gravity anomalies since there is considerable superposition of anomalies. Depth for the feature producing the positive anomaly, B2 (x,y:110,140) is computed to be approximately 25 ft. The depth calculated for the negative anomaly, A2 (x,y:25,150) is approximately 27 ft. It is unlikely that any of the closed contour anomalies are caused by features deeper than 30 ft. Most anomalies, such as Al and B3, are caused by shallower features, likely less than 15 ft in depth. It is suggested, however, that exploratory borings be drilled to the top of rock, as was done in the downstream switchyard and as suggested by the model in Figure 1.

Conclusion

31. A microgravity survey was conducted in the upstream switchyard of the powerplant during August 1989. The objective of the survey was the detection of subsurface cavities or other anomalous conditions that could threaten the integrity of the switchyard. The normal corrections were first applied to the gravity measurements as a field processing step in conjunction with monitoring data quality and inspection for inconsistencies. The data collection scheme was continually updated based on this information allowing the collection of a coherent and complete data set. The terrain correction and regional-residual field separation processing was accomplished jointly using two techniques, row/column average removal and polynomial surface fitting. Six anomalous areas (A1, A2, A3, B1, B2, B3) were identified on the residual gravity contour map, and nine exploratory locations were selected

RESIDUAL GRAVITY MAP

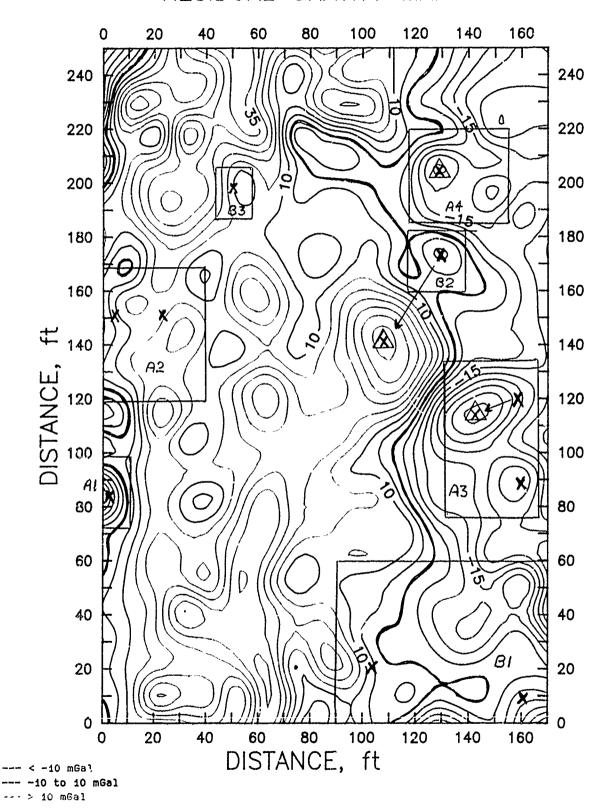


Figure 13. Anomaly selection in upstream switchyard. Regional-residual field separation using polynomial surface fitting techniques

based on the row/column average separation technique (Figure 12). Subsequent processing using the polynomial surface fit procedure added a seventh anomalous area with one additional exploratory location chosen, A4 (Figure 13). There was relatively good agreement between the two final processing techniques with two exploratory location adjustments recommended. The polynomial surface fit technique did not show the strong negative areas A2 and B1, but it would be unconservative to discount their existence. While the selected, localized gravity anomalies are consistent with the existence of shallow cavities, other subsurface conditions can equally well explain the anomalies. Only direct subsurface investigation can confirm the presence of cavities. However, the absence of negative gravity anomalies in an area is a positive indicator of the absence of cavities. The recommended exploratory drilling program is a minimum plan, and if these negative anomalies are indeed cavities, then a closer inspection of the anomaly map should be undertaken to select additional exploratory locations.

References

Balch, Stephen J., and Thompson, Garth T. 1989. "An Efficient Algorithm for Polynomial Surface Fitting," <u>Computers and Geosciences</u>, Vol 15, No.1, pp 107-119.

Butler, Dwain K. 1980. "Microgravimetric Techniques for Geotechnical Applications," Miscellaneous Paper GL-80-13, US Army Engineer Waterways Experiment Station, Vicksburg, MS.

. 1985. "Topographic Effects Considerations in Microgravity Surveying," in <u>Proceedings of International Meeting on Potential Fields in Rugged Topography.</u> IGL Bulletin No. 7, Institute de Geophysique, University de Rausanne, Switzerland, pp 34-40.

Butler, Dwain K., and Yule, Donald E. 1984. "Microgravity Survey of Wilson Dam Powerplant Switchyards, Florence, Alabama," Miscellaneous Paper GL-84-16, US Army Engineer Waterways Experiment Station, Vicksburg, MS.

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Appendix A Wilson Dam Upstream Switchyard
Field Data and Corrected Data

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10.00 50.00 549.51 14.5 4424 5195.4 5 5 5 5 5 5 5 5 5	, ,,	2 2	} } }				7.000.	~	8.3	20.08	\$49.23	15.2	2,7	5227.0
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10.00 10.00 549.43 14.9 4434 5170.7 7 70.00 52.00 549.33 15.4 4706 10.00 0.00 549.33 14.9 4596 5179.9 7 70.00 52.00 549.33 15.5 4674 10.00 0.00 549.31 14.9 4756 5259.3 8 70.00 0.00 549.37 15.9 4575 4575 15.0 4675 10.00 0.00 549.21 15.1 4779 5171.6 10.00 110.00 549.21 15.1 4779 5171.6 10.00 110.00 549.21 15.1 4779 5171.6 10.00 110.00 549.21 15.1 4779 5171.6 10.00 110.00 549.21 15.1 4779 5171.6 10.00 110.00 549.21 15.1 4779 4779.00 10.00 10.00 549.21 15.1 4779 4779.00 10.	'n	8.0 7	8.	% %	14.8	3	5195.5	¥A	40.00	86.00	249.47	15.4	0097	5186.0
100.00 25.00 54.9.13 14.9 4.660 5177.9 7 70.00 22.00 549.38 15.5 4.674 100.00 40.00 549.37 14.9 4.756 5259.3 6 70.00 0.00 549.27 15.6 4.654 100.00 100.00 549.27 15.1 4.759 5171.4 100.00 110.00 549.27 15.1 4.759 5171.4 100.00 110.00 549.27 15.1 4.759 5171.4 100.00 110.00 549.27 15.1 4.759 5171.4 100.00 110.00 549.27 15.1 4.759 5171.4 100.00 110.00 549.27 15.1 4.759 5171.4 100.00 110.00 549.27 15.1 4.759 5171.4 100.00 110.00 549.27 15.1 4.759 5171.4 100.00 110.00 549.27 15.1 4.759 5171.4 100.00 110.00 549.27 15.1 4.759 5171.4 100.00 110.00 549.27 15.1 4.759 5171.4 100.00 110.00 549.27 15.1 4.759 5171.4 100.00 110.00 549.27 15.1 4.759 5171.4 100.00 110.00 549.27 15.1 4.759 5171.4 100.00 110.00 549.27 15.1 4.759 5171.4 110.00 110.00 12.00 1	•	10.00	9	2.ez	14.9	53	7.8.5	٠	8	\$2.00	549.33	15.4	9027	2202
130.00 30.00 549.37 14.9 4756 5259.5 8 70.00 0.00 549.7 15.6 4658 130.00 0.00 549.7 15.6 4658 130.00 20.00 549.7 15.0 4704 5175.1 100.00 110.00 249.21 15.1 4799 3278.4 100.00 110.00 249.21 15.1 4799 3278.4 100.00 110.00 249.21 15.1 4799 3278.4 100.00 110.00 249.21 15.1 4799 3278.4 100.00 110.00 249.21 15.1 4799 3278.4 100.00 110.00 249.21 15.1 4799 3278.4 100.00 110.00 249.21 15.1 4799 3278.4 100.00 110.00 249.21 15.1 4799 3278.4 100.00 110.00 249.21 15.1 4799 3278.4 100.00 110.00 249.21 15.1 4799 3278.4 100.00 13.83 248.8	_	110.00	8. 8.	5:9.03	14.9	0697	5179.9		8	8	5 07	4 4	7277	S176 2
130.00	•••	100.00	80.00	549.37	14.9	478	5259.3	• •	8	0	8 0,5	, ¥	74.77	7 72.65
130.00 20.00 549.29 15.1 4575 5171.6 10 100.00 110.00 549.21 17.7 4779 110.00 110.00 549.21 17.7 4779 170.00 110.00 549.21 17.7 4779 170.00 110.00 549.21 17.7 4779 170.00 110.00 549.21 17.7 4779 170.00 110.00 549.21 17.7 4779 170.00 110.00 549.21 17.7 4779 170.00 110.00 549.21 17.7 4779 170.00 110.00 549.21 17.7 4779 170.00 170.00 549.21 17.7 4779 170.00 170.0	۰	130.00	00.0	549.17	15.0	Ř.	5195.8	•	5	8	44.8 O7	¥	8377	7 7213
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DRIFT TIDE DEPART LATDE FA/GB G(UGALS) LATDE FA/GB LATDE LATDE FA/GB LATDE FA/GB LATDE FA/GB LATDE LATDE FA/GB LATDE LATDE	12	100.00	110.00	\$49.21	15.1	6 23	5278.4		*	8	RECT TOW &	i		
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DRIFT TIDE DEPART LATDE FA/GB G(UGALS) 4779,00 0.00	;	Y	80	ECT IONS	į							ATDE		(STVDO)
0.00 0.00 0.00 0.00 0.00 5278.35 46482.00 0.00 0.00 0.00 13.83 2.84 1756.00 0.00 0.00 0.00 13.83 2.84 1756.00 0.00 0.00 0.00 100.00 23.05 26.74 15.71 25.60 15.00 15.00 100.00 13.00 13.00 13.83 21.31 5254.75 46480.00 0.00 0.00 100.00 23.05 29.60 13.83 21.31 5254.76 4670.00 0.00 0.00 100.00 23.05 29.80 13.83 6.39 5195.64 4674.00 0.00 0.00 0.00 13.03 21.37 5195.64 4674.00 0.00 0.00 0.00 100.00 23.05 29.80 5170.72 46580.00 0.00 0.00 0.00 100.00 23.05 29.80 11.37 5259.26 47790.00 0.00 0.00 110.00 23.35 5170.6 15.38 0.00 100.00 20.74 11.37 5259.26 47790.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	EADING				ATDE	FAG	G(UCALS)	00 0027	2	8	8	8	•	, at at
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1.51 0.00 10.00 2.30 -3.54 5265.87 4656.00 0.00 0.00 100.00 23.05 29.60 3.78 0.00 40.00 9.22 14.21 5240.75 4690.00 0.00 0.00 100.00 23.05 29.60 5.29 0.00 60.00 13.83 21.31 5254.76 4706.00 0.00 0.00 10.00 6.91 18.47 6.80 0.00 60.00 13.83 6.39 5195.64 4674.00 0.00 0.00 0.00 10.00 20.74 12.06 9.07 0.00 100.00 20.74 -12.79 5179.72 4658.00 0.00 0.00 110.00 25.35 5.68 13.61 0.00 30.00 6.91 11.37 5259.26 4779.00 0.00 0.00 110.00 25.35 -17.06 15.39 0.00 90.00 20.74 -14.92 5176.06 17.39 0.00 90.00 18.44 5.48 5176.06	00.8774	0.0	0.0	8.0	8.0	8	5278.35	S (47)	3 8	3 8		3 1		2 1
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9.00 0.00 0.00 13.83 0.39 5175.04 4674.00 0.00 0.00 90.00 20.74 12.08 9.07 0.00 100.00 23.05 29.40 5170.72 4674.00 0.00 0.00 110.00 25.35 5.48 11.34 0.00 90.00 20.74 11.37 5259.24 47790.00 0.00 0.00 110.00 25.35 17.06 17.38 0.00 70.00 16.13 -2.84 5195.84 47790.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	3 6	,	3 3	3 5	3 !	֝֞֞֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	5.45	7.06.00	8.0	8	80.09 80.00	13.83		202.42
9.07 0.00 100.00 23.05 29.40 5170.72 4674.00 0.00 0.00 110.00 25.35 5.46 111.34 0.00 90.00 20.00 110.00 25.35 5.46 111.34 0.00 90.00 20.74 11.37 5259.26 4799.00 0.00 0.00 0.00 110.00 25.35 17.06 15.48 0.00 70.00 16.13 22.84 5195.84 4799.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	(A) (A)	8.	3	3	3.5	9.34	3.2.8	00'7297	0.0	8.	8.0	20.74		176.16
11.34 0.00 90.00 20.74 -12.79 5179.92 4658.00 0.00 0.00 110.00 25.35 -17.06 13.61 0.00 30.00 6.91 11.37 5259.26 47790.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	638.00	9.07	8	9.0	ე გ	8	5170.72	797,00	0.0	0.0	110.00	25.35		174.38
13.61 0.00 30.00 6.91 11.37 5259.26 4799.00 0.00 0.00 0.00 0.00 0.00 15.00 15.00 15.00 15.00 15.00 15.00 15.00 15.00 15.00 15.00 15.00 16.44 5.68 5171.57	66.00.00	7. 7.	8.0	8.8	20.74	.12.79	5170.92	00'889*	0.0	0.0	110.00	25.35		38.38
15.88 0.00 70.00 16.13 -2.84 5195.84 17.39 0.00 90.00 20.74 -14.92 5176.06 19.66 0.00 80 00 16.44 5.68 5171.57	1756.08	13.61	8.8	8.8	6.91	11.37	5259.26	00 0027	2	2	8	8		ž.
17.39 0.00 90.00 20.74 -14.92 19.66 0.00 80 00 18.44 5.68	4704.00	15.88	8.0	8.8	16.13	-2.8%	5195.84		3	3	3	3		200
89.2 24.81 00 08 00.0 36.91	00.3697	17,39	8	0.00	20.74	-14.92	5176.06							
30.00 M W W W W W W W W W W W W W W W W W W	K	77 01	8	8			6171 67							
	00.00	8.4.	3 3	3 3	\$ 6	8 8	75.1716							

DATA SUMMULY
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				ILE: WORY. SP!			PROGRAM: wde10	ode 10		FILE: wde10.gpf	10.epf		
BASE STATION (X.Y.)	(X.Y)	100	110				CA AV ROLLEGE STATE	\$	95	91			
REFERENCE ELEV.	LEV.	549.21					REFERENCE ELEV.	ELEV.	549.21	: -			
DENSITY		1.8					DENSITY		40.				
GRID ROTATION	8	0					GRID ROTATION	1011	0				
METER FACTOR	¥	1.08008	82				METER FACTOR	8	1.06006	8			
REFERENCE READING	EADING	7887					REFERENCE READING	READING	7887	}			
LATITUDE		0343000	_				LATITUDE		034,3000	•			
LONG! TUDE		%.0					LONG17UDE		0.0				
DATE		080189					DATE		080189				
		< FIELD C	ATA AND	-< FIELD DATA AND RESULTS >-	•	; ; ; ;			< FIELD	-< FIELD DATA AND RESULTS >	ESULTS >		
STATION	COORD(X,Y)	۲,۲)	ELEV	T.	READING	G(UGALS)	STATION	COORD(X,Y)	(Y,X	ELEV	Ħ	READING	(\$TYPOOL)5
	100.00	110.00	549.21	15.7	&.,	5278.4		100	110.00	2,675	16.2	0297	7 1003
	20.00	80.00	549.50	15.7	\$73	\$223.5	٠ ^	00	9	32 07	1 4	Š	2000
	80.00	70.00	549.38	15.8	4717	5213.9	'n	8.8	8	\$49.13	16.3	ē,	5167.3
4	00.04	80.00	249.47	15.8	473	\$228.4	•	8.8	8	2.63	16.4	171	5186.8
~	20.00	50.00	549.38	15.9	4715	5204.6	•	30.00	9.0	549.45	16.4	93	5173.8
9	9.0	30.00	549.32	15.9	6697	5176.1	9	9.0	60.09	276.78	16.5	50.7	\$174.4
2	%.00 %	100.00	549.16	16.0	4819	5284.9	7	0.0	80.08	\$49.32	16.5	5997	\$158.3
€0	80.08	80.00	549.31	16.0	7117	5247.0	•••	40.00	8.8	\$49.58	16.5	17.	\$215.5
٥	100.00	90.09	549.35	16.1	7927	979725	۰	20.02	8.8	549.46	16.6	i,	5208.0
10	8.8	100.00	549.31	16.1	8	5263.2	9	100.00	110.00	549.21	16.8	1828	\$278.4
	100.00	110.00	549.21	16.1	4.820	\$278.4	!						
	Y	80	CORRECTIONS	Å				*	8	CORRECTIONS	į		
							SEASTING	TELET	921	Teken	1	80/43	CARCATET
READING DR	DRIFT	T10E 08	DEPART	LATDE	FA/GB	G(UGALS)	•				S	:	
							4620.00	0.0	0.0	0.0	9.0	8.5	5278.35
87.50	0.00	0.00	8.	8	8	5278.35	4731.00	7.	8.	8.8	16.13	. K	5206.86
67.55.00	2.43	0.00	30.00	6.91	8.	5223.51	4701.00	2.16	8	110.00	25.35	-5.69	\$167.33
4717.00	4.05	0.0	8	16.13		5213.95	4711.00	2.88	9.0	110.00	25.35	8.6	5188.78
4736.00	۷.%	0.00	30.00	6.91		5228.40	00.6697	3.36	8.	110.00	8.33	14.92	5173.77
4715.00	8.91	0.00	9.09	13.83		5204.62	4708.00	80.4	0.0	8.8	16.13		5174.41
00.089	2.73	0.00	80.00	18.44		5176.08	00.6997	9.4	8.0	90.08	18.44		5158.31
4819.00	13.77	0.00	10.00	2.30	-3.56	5284.93	4734.00	5.52	0.0	0.04	2.5		\$215.45
4772.00	16.20	0.00	30.00	6.91	7.10	5247.01	474.80	6.72	8.	80.8	11.52		5208.03
4767.00	18.63	0.00	50.00	11.52	\$.	5246.63	4828.00	3	0.0	0.0	00	8	5278.35
4795.00	20.25	0.00	10.00	2.30	7.10	5263.19				}	:		`

	-		FILE was 11 and	11 00/			PROGRAM: wda12	de)2		FILE: wda12.gpf	52.00f		
CASANGAN. MARINI	:												
BASS STATION (X Y)	2	100	110				BASE STATION (X,Y)	10# (X,Y)	100 110	10			
AS IS SUNDERSON	2	16 075					REFERENCE TIEV.	·LEV.	549.21				
Creative Co	:		•				DENSITY		1.8				
DEMOTIO		•					GRID ROTATION	101	٥				
GRID ROTATION	₹	0					2	2	1 00000	Ķ			
METER FACTOR	œ	1.06008	8				אכובא גאר	5	3	,			
REFERENCE READING	EADING	4887					REFERENCE READING	KENDING	ò				
ATITIOE		0443000	ç				LATITUDE		0343000	_			
7000			,				LONGITUDE		0.0%				
DATE		060109	_				DATE		980189				
		* FIELD	-< FIELD DATA AND RESULTS >	RESULTS >-		# # # # #		1 1 1 1 1	< FIELD C	< FIELD DATA AND RESULTS >	SSUL 18 >-		
STATION	coom(x,Y)	œ,t	ELEV	11%	READING	6 GUGALS	STATION	COORD(X,Y)	x,Y,	ELEV	11.0K	READ 1 ING	CUICALS
				• *	\$	7 8609	-	100.00	110.00	549.21	17.2	4052	\$278.4
-	8	10.00		9.0		25.00.4		40.00	00.04	549.41	17.3	4767	5214.4
2	8.	9.0		16.8	67.55	5,555.5		00.09	20.00	547.21	17.3	4918	523.1
m	0.07	8.0		16.9	4709	5191.1	1 4	8	20.05	95	17.4	7,092	5190.4
4	8	8		16.9		5.7.5	, ,	20.00	20.02	27.675	17.4	4745	5188.6
v	80.0S	8 8		17.0	Š	5219.4	•	200	8	27 075	17.4	4778	\$173.6
•	8.8	40.00		17.0	E.	5222.2	۰ ۰	8 9	5 5	\$7.075	17.5	8	5220.2
^	8.8	9.8		17.0	£7.	5184.6	- «	8 8	8	\$47.22	17.5	2267	5258.9
* 0	8.8	8.0		17.1	£752	\$2005	o c	9	5	27. 16	17.5	1967	\$240.6
٥	80.09	9,0		17.1	4835	5202.7	• \$	3 8	8 8	76 073	17.6	1787	\$255.1
10	8.8	40.00	547.16	17.1	\$167	5223.1	≥ :	3 8	3 8	70.7		3	\$0.4.0
::	100.00	110.00	\$49.21	17.2	4653	5278.4	- 2	8.8	110.00	549.21	17.7	9887	5278.4
	Y		CORRECTIONS	ì			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ř	8	CORRECT I ONS	į		
READING DI	DRIFT	1106	DEPART	LATOE	FA/GB	G(UGALS)	READING	DRIFT	TIDE DE	DEPART U	ርአቸው መ	FA/G	C(UCALS)
00 8087	8	8	0.0	9.0	9.0	5278.35	****						
00 5127	5.26	8	100.00	ა. გ.	8.0	5205.50	4852.00	8.0	8	0.00	30.5	3 ;	(6.0/20
00 00.27	97 5	00.0	110.00	25.35	21.31	5191.09	4767.00	5.42	0.00	8.		19.61	35.19.5
8		5	5	6-91	7.10	5257.81	4918.00	8.4	9.0	8.0		162.34	5223.14
80.4.6	5	3 6	60.08	11.57	19, 18	5219.41	4760.00	8.57	8.8	86.39	13.83	6.16	2190.40
3.8.7.	3 2	3 8	5	16.13	-4.26	5222.18	4745.00	11.02	9.0	8.8	20.75	16.11	5188.62
30.0//*	5 2	8 8	110 00	8 33	.5.69	5184.61	4728.00	14.69	0.0	110.00	22.33	18.47	312.56
3.8.7	2 .	3 8	8	20.00	27 0	\$200 00	4796.00	18.36	8.0	\$0.00	11.52	19.18	5230.21
4762.80	8.5	3 :	DO: 75			5207.72	4978.00	20.81	8	8.8	6.91	-141.64	5258.91
68:55.00	21.68	8	110.00	S :	ck-0-1-	3504.14	4943.00	23.26	8.0	50.00		-145.90	5240.61
4919.00	23.78	8	8 8	16.13	-145.90	5223.11	200 2787	×	8	8		2, 13	\$255.06
4853.00	27.00	9.0	8.	8.	8.	5278,35							
							00,097	33.	8	9.03	-32.27	4.97	5.5

	>>> _{**********************************}		DATA SUREUL	****	*********	SURGERY >>> Percenters becauses a	*****	>>>************************************		DATA SUBMARY	, , , , , , , , , , , , , , , , , , ,	•	********
PROGRAM: wdb1	ā		FILE: wdbl.gpf	351.gpf			PROGRAM: wdb2	7 4		FILE: wdb2.gpf	105.gpf		
BASE STAT	MASE STATION (X,Y)	100 110	011				BASE STAT	BASE STATION (X,Y)	100 110	10			
REFERENCE ELEY.	E ELEY.	549.21	_				REFERENCE ELEV.	ELEV.	549.21				
DEMSTT		1.8					DENSITY		1.8				
CRID ROTATION	ATION	0					GRID ROTATION	VT10M	0				
METES FACTOR	CT 08	1.0000	#				HETER FACTOR	301	1.08008	2			
REFERENCE	REFERENCE READING	1987					REFERENCE READING	READING	4887				
LATITUDE		0343000					LATITUDE		0343000	_			
COMESTUDE	w	8.0					301110401	•••	8.0				
DATE		080296					DATE		080289				
		< FIELD DATA	_	AND RESULTS >					< FIELD DATA AND RESULTS >-	ATA AND R	RESULTS >-		
STATION	3000	comp(x, r)	ELEV	T WE	READING	: פנחפארצ)	\$7A110M	COORD(X,Y)	x,ro	ELEV	11 %	READING	ช
-	100.00	110.00	549.21	8.0	9267	5278.4	-	100.00	110.00	549.21	8.6	8067	5278.4
~	8.8	110.00	\$49.24	8.1	7987	5217.9	~	\$0.00	8.8	549.26	8.6	1787	5222.1
n	80.08		\$49.38	8.1	5987	524.7	m	30.00	80.00	549.18	8.6	4827	5198.6
•	80.09		\$47.16	8.2	5015	5245.1	•	20.00	20.00	249.44	8.8	1111	5179.6
'n	90.09	=	\$47.24	8.2	5017	5245.7	5	8.8	30.08	27.675	8.8	7927	5188.5
•	60.0		549.51	8.3	Ę	5171.6	•	20.00	10.00	549.41	8.9	4761	5165.7
^	8.		28.52	4.6	183	5187.2	7	8.8	60.0	549.24	8.9	4.810	5201.6
•	8		\$49.16	4.6	7887	5248.2	•c	8.08	110.00	549.24	9.0	4845	\$225.3
۰	8.8	8.8	\$49.31	8.5	223	5251.1	•	8.8	8.8	549.32	5.1	4807	51%.5
9	100.00	110.00	549.21	9.6	9067	5278.4	10	100.00	110.00	549.21	9.1	7887	\$278.4
1	Y	-	CORCGCT 10HS	į				y	8	CORRECTIONS	į		
READING	DRIFT	1106	DEPART	2472	FA/G	G(UCALS)	READING	DRIFT	T10£ 06	DEPART	LATOE	5.V.G	G(UCALS)
W \$607	8	8	8	8	8	37 87.62	8	8			3	:	
20 2787	76 1	3	8	8	,	5317 87	80.004	3 :	3 3	3 3	3 :	3 1	32/0.33
8	77.7	8 8	3 8	3 6	; ;	10:11:01 57:71:01	m./484	97.	8 3	8 :	19-4	۲.5 د د د	5222.11
3 3	2.6	3 9	3 8	; ;	8 8	8:47	6827.00	8.7	8	8	6.91	-2.13	5196.61
2015.00	3.5	3 8	3 5	20.11	W. C. C.	3243.14	777.00	-5.92	8 :	8	20.74	16.11	513.8
8.75	º ;	3 8	3 5	3 ;	17.041-	5,45.75	4784.00	17.7-	8	8	18.4	18.24	5188.50
8.57.	e :	3 8	3 8	9 5	2.2	5171.33	4761.00	60 ;	8 :	9.0	ສ :	14.21	5165.72
20.118	5.5	8.6	8.8	? :	2.5	515/.16	4810.00	-10.86	°.8	8.8	16.13	2.13	5201.63
8.4	-16.56 56.56	8 8	8 8	4.61	ا ا	5248.25	7845.00	-12.84	0.0	0.0	0.0	2.13	525.27
82.5.39	-18.23	8	8	.6.	7.10	521.15	7907.00	-14.81	9.0	8.0	4.61	7.81	51%.50
8.5	3. 7.	8	8	8	8	5278.35	49 82.00	-17.28	8.	8.0	8.0	8.0	5278.33

Marie Mari		>>>		ATA SUMM	¥ * * * } }		DATA SUBLARY >>> *********************************	•	>>>++++++++++++++++++		DATA SUBBURY			************************
NATION (3,1) 100 110 1	PROGRAM:	13		FILE: #	153.gpf			PROGRAM	*		FILE: W	¥.		
Composition 1.5 1.	BASE STAT	TION (X,Y)		110				BARE STA	TION (X,Y)	5	110			
	REFERENCE	E ELEV.	5.6%	_				REFERENC	Z ELEV.	549.2	_			
Name 1,00000 Name Na	DENSITY		1.8					DEMBITY		1.8				
	CATO ROTA	AT TON	0					GR 10 ROI	TATION	0				
	METER FAL	£10	1.080	8				HETER FA	ICTOR	.080	8			
Color Colo	REFERENCE	E READING	1997					REFERENC	X READING	7887				
	LATITUDE		034300					LATITUDE	-	005,300	0			
	CONCITUD	ш	90.0					TOMOT	*	90.0				
100.00 110.00 549.21 9.1 4972 5272.1 1 1 1 1 1 1 1 1 1	DATE		060289					DATE		080289				
100.00 (10.10) S49.21 9.11 4.952 S2727.1 1 100.00 110.00 S49.21 9.1 4.952 S2727.1 1 100.00 1 10.00 S49.22 9.2 4.752 S272.2 4 175 S272.2 4 17	•		** F1ELD (TESULTS >					· FIELD	DATA AND 1	ESULTS >-		
100.00 110.00 549.21 9.1 4992 5278.4 1 100.00 110.00 549.21 9.7 4892 110.00 110.00 549.22 9.2 4250 5277.1 2 2 100.00 90.00 549.25 9.8 4792 4597 100.00 110.00 549.22 9.3 4475 5199.7 2 100.00 90.00 549.25 9.8 4792 459.7 9.3 4475 5199.7 9.9 410.00 549.25 9.3 4475 5252.2 9.3 4475 9.0	STATICM	9000	(x,7)	ELEV	7116	READIN		87A710#	9000	(X,Y)	ELEV	1186	READ ING	C(NCME)
110.00 60.00 549.28 9.2 4550 5227.1 2 100.00 90.02 549.16 9.7 4557	-	100.00	110.00	549.21	9.1	7887	5278.4	• • • • • • • • • • • • • • • • • • •	180.63 63.63	110.8	549.21	9.7	5987	3278.4
100.00 10.00 549.30 9.2 4734 5159.7 3 3 5 0.00 10.00 549.20 9.9 4784 5204.8 9.9 4784 5204.8 9.9 4784 5204.8 9.9 4784 5204.8 9.9 4784 5204.8 9.9 4784 9.9 9.9 4784 9.9 4784 9.9 4784 9.9 4784 9.9 4784 9.9 9	~	110.00	8.8	\$49.26	9.2	923	5227.1	8	100.00	8.8	549.16	7.6	1997	5255.5
10.00 100.00 547.24 9.3 4475 5726.3 9.9 4775 570.00 70.00 549.24 9.9 4756 550.00 70.00 549.24 9.4 4756 5710.5 9.9 4756 7.0 7.0 7.0 549.24 9.9 4756 7.0 7.0 7.0 549.24 9.9 4756 7.0	n	100.00	0.00	549.30	9.2	17.4	5159.7	n	30.00	110.00	549.23	8.6	73.75	5191.2
Signature Sign	4	80.09	100.00	547.24	P.3	\$783	5232.2	•	8.8	60.03	549.30	6.6	72.5	5210.6
50.00 90.00 549-26 9-4 4818 5210.5 6 110.00 0.00 548-96 9-5 4747 20.00 70.00 549-26 9-4 4755 5197.8 7 110.00 60.00 549-26 15.0 4007 20.00 0.00 549-27 9-4 4775 5170.1 9 100.00 110.00 549-22 10.1 4847 20.00 0.00 549-27 9-4 4775 5170.1 9 100.00 110.00 549-21 10.1 4847 130.00 110.00 549-21 9-7 4887 9 100.00 110.00 549-21 10.1 4847 130.00 110.00 549-21 9-7 4883 9-8 100.00 110.00 549-21 10.1 4847 1100.00 110.00 549-21 9-7 4883.00 9-8 100.00 110.00 549-21 10.1 4847 1100.00 110.00 5	•	8.8	8.8	549.22	9.3	7197	5206.8	W 1	100.00	8.8	X9.X	6.6	47	5192.0
20.00 70.00 549.26 9.4 4775 5197.8 7 110.00 640.00 549.26 10.1 4518 130.00 10.00 549.25 10.1 4518 130.00 10.00 549.21 10.1 4517 130.00 10.00 549.21 10.1 4517 130.00 10.00 549.21 10.1 4517 130.00 10.00 549.21 10.1 4517 130.00 10.00 549.21 10.1 4517 130.00 10.00 549.21 10.1 4517 130.00	•	80.8	8.8	276.58	7.6	4818	5210.5	•	110.00	9.8	X.8.%	6,0	4747	5162.7
10.00 640.00 549.25 9.4 4755 5152.7 9 100.00 110.00 549.26 10.1 4687 130.00 70.00 549.47 9.5 4745 5170.1 9 100.00 110.00 549.21 10.1 4647 130.00 70.00 549.21 9.7 4843 5222.6	^	8.8	8.8	249.36	4.6	£.	5197.8	~	110.00	90.09	27.6%	13.0	1007	5239.1
100.00 0.00 549.47 9.5 4745 5170.1 9 100.00 110.00 549.21 10.1 4547 110.00 110.00 549.22 9.6 4117 5222.6	€0	°.8	80.09	X9.X	4.6	4735	5152.7	60	120.00	6 8	549.26	10.1	4818	524.2
190.00 70.00 549.32 9.6 4817 5222.6	۵	8.02	0.00	249.47	9.5	4745	5170.3	٥	100.00	110.00	549.21	10.1	1847	\$278.4
100.00 110.00 549.21 9.7 4863 5278.4	2	130.00	8.8	549.32	9.6	4817	\$222.6							
Delify Tide DePlat LATDE FAVCES GUUCALLS LATDE READING DRIFT TIDE DEPLAT LATDE FAVCES CUUCALLS LATDE L	F	100.00	110.00	549.21	9.7	7883	\$278.4		Y	8	RECTIONS	į		
DREIFT TIDE DEPART LATE FAVGS GUGALS CHOCALS CHOCALS </td <td></td> <td></td> <td></td> <td>PECTIONS</td> <td>;</td> <td></td> <td></td> <td>BEANING</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>				PECTIONS	;			BEANING						
Delify 1 TIDE DEPART LAVIDE FAVIDE CHURALES) CHURALES CHUR													•	(UCALS)
0.00 0.00 0.00 -4.17 0.00 4.657.00 -4.17 0.00 20.00 4.657.00 -4.17 0.00 20.00 4.657.00 -4.17 0.00 0.00 0.00 1.42 0.00 0.00 1.42 0.00 0.00 0.00 0.00 1.42 0.00 0.00 0.00 0.00 1.42 0.00 0.00 0.00 1.42 0.00 1.42 0.00 0.00 1.42 0.00 0.00 0.00 0.00 0.00 0.00 0.0	READ THE				ATDE	5VG	G(UGALS)	4863.00	9.8	8.0	9.0	0.0		278.35
0.00 0.00 0.00 0.00 0.00 5772.00 -9.72 0.00 0.00 1.42 -0.61 0.00 50.00 11.52 3.55 5227.07 4784.00 -16.66 0.00 70.00 16.13 6.39 -1.22 0.00 50.00 11.52 3.55 5227.07 4784.00 -20.63 0.00 90.00 20.74 9.24 -2.13 0.00 10.00 23.05 6.15 5159.22 47747.00 -23.61 0.00 90.00 20.74 9.24 -3.14 0.00 40.00 9.22 0.47 526.23 4887.00 -27.77 0.00 90.00 11.52 3.55 -3.54 0.00 40.00 9.22 0.47 520.54 4887.00 -38.88 0.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 90.00 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>4627.00</td><td>-4.17</td><td>9.0</td><td>80.00</td><td>4.01</td><td></td><td>25.49</td></td<>								4627.00	-4.17	9.0	80.00	4.01		25.49
-0.61 0.00 50.00 11.52 3.55 5227.07 4784.00 -16.46 0.00 70.00 16.13 6.39 -1.22 0.00 100.00 23.05 6.15 5159.72 475.00 -20.63 0.00 90.00 20.74 9.24 -2.13 0.00 10.00 23.05 6.15 5159.72 4747.00 -25.61 0.00 10.00 25.35 -17.76 -3.04 0.00 40.00 9.22 0.47 526.63 4867.00 -27.77 0.00 90.00 11.52 3.55 -5.77 0.00 40.00 9.22 10.42 5197.78 4847.00 -38.88 0.00	4.892.00	8.0	9.	8	9.0	8.0	5278.35	4792.00	-9.72	8	0.0	9.0		191.20
-1.22 0.00 100.00 23.05 6.15 5159.72 4756.00 -20.63 0.00 90.00 20.74 9.24 -2.15 0.00 10.00 23.05 1-17.75 -2.15 0.00 10.00 2.30 -140.21 5222.21 4747.00 -25.61 0.00 110.00 25.35 -17.75 -3.04 0.00 40.00 9.22 0.47 5206.63 4818.00 -33.33 0.00 40.00 9.22 0.47 5206.63 4818.00 -33.33 0.00 40.00 9.22 10.42 5197.78 4818.00 -38.88 0.00 0.00 0.00 0.00 0.00 -3.57 10.42 5197.78 -4.45 0.00 110.00 55.35 11.52 4.97 5152.46 -4.45 0.00 110.00 25.35 11.52 4.97 5152.45 -4.45 0.00 0.00 0.00 0.00 0.00 0.00 0.00	8.00	-0.61	9.0	20.0	11.52	3.55	5227.07	724.00	-16.66	°.	8.8	16.13		210.61
-2.13 0.00 10.00 2.30 -140.21 5222.21 4747.00 -25.61 0.00 110.00 25.35 -17.76 -10.00 10.00 25.35 -17.76 -10.00 10.00 5.20 11.52 3.55 -17.76 0.00 40.00 9.22 0.47 5206.63 4818.00 -33.35 0.00 40.00 9.22 3.55 -4.56 0.00 40.00 9.22 10.42 5197.78 4818.00 -38.88 0.00 0.40 0.00 0.00 0.00 0.00 -30.88 0.00 0.00 0.00 0.00 0.00 -30.88 0.00 0.00 0.00 0.00 0.00 -30.88 0.00 0.00 0.00 0.00 0.00 0.00 0.00	8.74.8	-1.22	9.°	100.00	ე გ	6.15	5159.72	4756.00	-20.83	8.0	8.0	20.74		191.99
-3.04 0.00 40.00 9.22 0.47 5206.63 4807.00 -27.77 0.00 50.00 11.52 3.55 -3.55 0.00 20.00 4.61 3.55 5210.54 4818.00 -33.33 0.00 40.00 9.22 3.55 -4.56 0.00 40.00 9.22 10.42 5197.78 4818.00 -38.88 0.00 0.00 0.00 0.00 0.00 0.00 -3.57 0.00 110.00 55.35 18.47 5152.46 -6.48 0.00 110.00 25.35 18.47 5170.04 -8.20 0.00 0.00 0.00 5278.35 -9.72 0.00 0.00 0.00 5278.35	4975.00	-2.13	8.	0.0 8	2°.3	-140.21	5222.21	4747.00	-23.61	8.	110.00			162.66
-3.95 0.00 20.00 4.61 3.55 5210.54 4818.00 -33.33 0.00 40.00 9.22 3.55 -4.56 0.00 40.00 9.22 10.42 5197.78 4847.00 -38.88 0.00 0.00 0.00 0.00 0.00 -5.77 0.00 50.00 11.52 4.97 5152.46 -6.48 0.00 110.00 25.35 18.47 5170.09 -6.48 0.00 40.00 9.22 7.81 5222.54 -9.72 0.00 0.00 0.00 5278.35	4314.00	-y.0	9.0	60.0 3	8.22	77.0	5206.83	4807.00	-27.77	8.	8.08			29.11
-4.56 0.00 40.00 9.22 10.42 5197.78 4847.00 -38.88 0.00 0.00 0.00 0.00 0.00 -0.00 5278.35	4818.00	ن. 8.	0.00	20.00	4.61	3.55	5210.54	4818.00	-33.33	0.0	80.04	2.2		×.x
-5.77 0.00 50.00 11.52 4.97 5152.46 -6.46 0.00 110.00 25.35 18.47 5170.09 -8.20 0.00 40.00 9.22 7.81 5222.54 -9.72 0.00 0.00 0.00 5278.35	8.32.8	4.56	0.0	00.07	9.22	10.42	5197.78	4847.00	-38.88	8.	9.	9.0	-	278.33
-6.66 0.00 110.00 25.35 18.47 -8.20 0.00 40.00 9.22 7.81 -9.72 0.00 0.00 0.00 0.00	4755.00	-5.77	8	8.8	1.5	4.97	5152.65							
-8.20 0.00 40.00 9.22 7.81 -9.72 0.00 0.00 0.00 0.00	4745.00	-6.68	9.8	110.00	8.33	18.47	513.9							
-9.72 0.00 0.00 0.00 5.00	4817.00	8. 8 .	9.0	8.8	4.2	7.81	\$222.54							
	4663.00	-9.72	9.0	8.0	8.0	9.0	5273.35							

PROGRAM: wdb5	92 1		FILE: 1	FILE: wdb5.gpf			PROGRAM: wdb6	1		FILE: wdb6.gpf	16.90 100		
										9			
BASE STA	BASE STATION (X,Y)	100	110				MARE STATION (X,Y)	CK.X.	30	2			
REFERENCE ELEV.	E ELEV.	549.21					REFERENCE RLEV.	ELEV.	549.21				
DEKELTY		1.8					DENSITY		. .				
CRID ROTATION	ATION	0					CRID ROTATION	101	9				
HETER FACTOR	CTOR	1.08008	88				METER FACTOR	8	1.06008	¥			
REFERENCE	REFERENCE READING	1887					REFERENCE READING	READING	1887				
LATITUDE		0343000	8				LATITUDE		0343000	.			
LOW: I TUDE	w	8.0					BOUTEROL		% 0.0				
DATE		080289	۵.				DATE	•	000289				
		< FIELD DATA	DATA AND	A AND RESULTS >-	•			•	< FIELD C	< FIELD DATA AND RESULTS >	ESULTS >-		
STATION	COORGIX,Y)	(X,Y)	ELEV	1136		READING G(UGALS)	STATION	COORD(X,Y)	X,Y	ELEV	Ħ	READ ING	C(UCALS)
-	100.00	110.00	\$49.21	10.2	9787	\$278.4	-	100.00	10.00	549.21	10.8	35	\$278.4
۰ ۸	120.00	8		•	\$087	5247.6	~	100.00	100.00	549.01	10.8	1537	5262.7
м	150.00	40.00			4774	5165.7	n	90.00	10.00	\$49.38	10.9	4717	5182.0
•	110.00	0.0			4712	\$141.6	4	8.8	8.8	27.6%	10.9	4737	5202.3
~	100.00	10.00	549.18	10.4	7227	5170.2	'n	8.0 1	10.00	549.52	11.0	ę Ŗ	5197.2
•	20.00	30.08	549.22		4768	5213.9	•	9.0	8.8	X9.31	17.1	299	5167.8
7	30.00	8.8	549.10	10.5	4783	5223.2		8.08	110.00	276.23	1.1	£ 23	5202.4
*	8.8	100.00	\$49.2	10.6	7907	\$226.8	e 0	8.8	8.8	\$49.42	11.2	729	5171.5
۰	8.00	8.8		10.6	1627	5252.0	٠	100.00	10.8	549.21	11.3	92.	5278.4
5	100.00	110.00	549.21	10.7	4845	\$278.4			į				
	>		CORRECTIONS	i		•	- B B B B B B B B B B B B B B B B B B B	Y	3	CORRECT TORS			
							DESCRIPTION OF	DRIFT	710€	DEPART	LATDE	FA/8	G(UCALS)
READTING	DRIFT	1106	DEPART	LAT0£	1VC	G(UGALE)	8 777	8	8	8	8	8	X #20
00 1787	8	8	8	8	8	4278.33	667.00	20.4-	8 8	9.0	2.3		2362.72
00.5083	-0.24	0.0	80.08	6.91	6.39	5247.61	4717.00	14.23	8.0	100.00	23.03		5182.01
4776.00	¥.0.	0.0	8.8	16.13	-33.51	5185.20	4737.00	·8.13	9.0	80.00	18.44	 	5202.38
\$712.30	÷.0-	9.0	110.00	28.35	-17.76	5141.65	4701.00	-28.46	o.8	100.00	8.8		5197.20
4726.00	-0.51	9.0	100.00	23.53	-2.13	5170.16	7797	-36.60	0.0	8.8	20.74		\$167.82
47611.00	÷.0.	8.0	80.00	18.44	0.Y	5213.89	4731.00	£.7	9.0	°.8	8.0		\$202.45
479.11.00	r.o-	8.0	60.00	9.22	-7.82	522.22	777.00	-52.86	<u>.</u> 8	9.0 1	8.2		37.28
4.80%.00	-0.81	9.0	10.00	2.30	2.84	5236.78	478C.00	-69.13	8.	8	8	8	27.27.25
67/Y.	6.8	8.8	40.00	8.22	6. 4	5241.98							
*													

EASE STA				11.E. many . Man				PROGRAM: wcb8	1		FILE:	FILE: wdb8.gpf		
	BASE STATION (X,T)	100 110	110					410 S16	* ** *** **** ****		9			
METERENCE ELEV.	E ELEV.		1 2					A BATTAL SANG	70.00		<u> </u>			
DESK ITT		1.8						DEMESTY		į <u>.</u>	,			
CRID MOTATION	ATIOE	٥						COLD BOYATION	74.174					
METER FACTOR	CTOR	1.08006	8					STITUTE STATE		•	8			
MERENENC	REFERENCE NEADING	1987						CHERRICA	PEFFERCE BEALING		3 .			
LATTINDE		0005750	8					ATT TAN			\$			
LONG!! TUDE	ш	8.0						A CHARLES	. •	3 8	3			
MIE		080280						DATE	y	0602090	2			
		FIELD DATA		AND RESULTS >			:			< 71EG	-< FIELD DATA AND RESULTS >	RESULTS	•	
STA7 ION	COOMB(X,Y)	Cr.x	ELEY	1100	READ ING		פלות ארצי	STATION	30 00	COORD(X,Y)	ELEV	1116	READING	: פנחבערצו
-	100.00	110.00	549.21	11.3	92/7		5278.4		8	8	6,073		į	
~	140.00	80.00	\$49.51		4710		5237.2	۰ ~	110.00			. :	24.50	2010.
'n	150.00	9.0	\$48.53	•	879		5157.7	m	20.00			1:0	237	5126.6
•	8.9	10.00	\$49.25		6997		5190.9	•	00.07	•		11.9	197	205
~	8.6	8 8	548.19		1017		5170.7	1 5	150.00	-		12.0	38	\$227.9
•	8.8	8.8	\$48.55		22.		5185.8	•	170.00			12.0	1897	5235.9
~	8.8	8.8	X6.3		72.		5264.6	^	140.00	80.00		12.1	12,5	5273.5
	150.80	8	3.5		999		5176.8	•0	170.88			12.1	4713	5205.2
•	110.00	110.00	X60.63		4714	ท์	5270.3	۰	140.00	80.00	549.22	12.1	7697	5249.7
6	28. 8	10.8 8	2 6.21	1.8	5 7.	ĸ	5278.4	01	100.00	110.00		12.2	4725	5278.4
	¥	8	CORRECTIONS	į.			;		*		CORRECTIONS	į		
READ 1:06	DR.IFT T	1106 12	DEPART	že S	£	G(UCALS)	(\$7)	READING	DRIFT	1106	DEPART	LATDE	FA/G8	G(UCALS)
4780.00	8.0	9.0	8	8.0	8	\$278.35	X:	W #224	6	5	8	8	8	2
4710.00	÷.4.	9.0	8.0	6.91	21.31		ង	00 2007	\$ K	3 8	8 8	3 7	3. 7	65.0126 67.77
66.FE.30	-12.48	8.0	110.00	X.X	-48.32		£.	(ATZ)	9	3 8	3 5		3 8	
00.6597	-16.64	8.0	100.00	23.53	3.55		8.	4613.00	.0.87	3 8	3 5	; ×	27.77	20.00 20.00 20.00 20.00
8.792	-22.88	8.0	8.8	20.74	-72.47	5170.66	99.	00.7997	-1.37	8.0	30.00	6.91	10.42	5227.93
6702.00	-27.04	0.0	8.8	11.52	8.9			00.7854	3.1.	8.8	30.00	6.91	5.73	\$235.85
87.72.79	1 2.23	9.0	60.0 3	8.2	6.39		S .	4701.00	-1.8	0.0	8.8	6.91	15.40	5273.49
8. 39	÷.	8.0	8.8	2.7	-41.82		18.	4713.00	-2.49	8	8.8	16.13	.75.55	5205.22
8.7.	-47.84	0.0	9.8	0. 0.	15.39	5270.30	8.	00.36%7	.2 74	8	8	• 7		97 0763
8	•									3	3	•	-	76.7.

	***************************************		DATA SUMMAY	**************************************	***************************************			>>>		DATA SUBBARY >>>**********	*		
PROGRAM: wdb9	94		FILE: M	Maddy.gorf			Mode	PROCESAR: wcb10		FILE: wdb10.gpf	510.gpf		
			9				201	LASE STATION (X.Y.)	011 001 (7	110			
MAK SIA	MAKE STATEON CA, TO		2 .					PESSOCIAL SIEV					
REFERENCE BLEV.	ELEV.	7.64	-				DENSITY	E	1.8				
DEMONIT		•					6180	Ceth Bortation	c				
CRID MOTATION	17101	0						ETER SECTOR	•	8			
METER FACTOR	110k	1.08008	8				WE I EX	1 No. 1 Oct.		8			
REFERENCE	REFERENCE READING	1997					REFER	REPERENCE READING					
LAYI'ILDE		0343000	6				LATITUDE	30	0343000	8			
TORE THE		8					BOTTIBED	TUDE	0.0 0.0				
PATE		080289					DATE		060289				
		-< FIELD DATA AM	NATA AND I	D RESULTS >-		; ; ; ;			FIELD	FIELD DATA AND RESULTS >	ESULTS >-		
STATION	COORD(X,Y)	(X.Y)	ELE	1	READ ING	C (UGALS)	STATION		COCCO (X,Y)	ELEV	1116	READING	C(DCALS)
							-	100.00	00.011	\$49.21	14.8	82.7	\$278.4
- 1	3.55	3 8	7.44	7.4.	2 7 7	25/0:4	N	8.8			14.8	7652	5205.4
v #	3 5	8 8	2 2	<u> </u>	3	2772	n	15.00	•	549.15	14.9	8597	5186.4
١ ،	8 9	8	240.27	14.3	002	\$270.6	*	15.00		249.40	14.9	759	5181.7
, 10	8	8	\$40.46	14.4	1233	5216.6	n	170.00	00.00	548.23	15.1	\$2897	5158.1
•	8.8	8.8	549.39	14.5	229	5191.0	•	0.0		\$49.24	15.1	4618	5144.1
^	8.8	100.00	549.27	14.6	8797	5201.6	~	0.0		27.6%	15.2	7297	5146.7
•	8.8	8.8	\$49.13	14.6	4672	5219.1	•	20.00		549.27	15.3	9997	5189.5
۰	8.8	110.00	549.21	14.7	477	5225.2	•	70.09		\$49.26	15.3	8	5212.2
2	100.00	110.00	549.21	14.8	473	\$278.4	2	100.00	117.00	549.21	15.4	4763	\$278.4
1 1 2 5 6 6	*		CORRECTIONS	ì					8	CORRECTIONS	į		
READTHE	MIT	1106	DEPART	ראשפ	8/3	G(UGALS)	READING	G DRIFT	7106	DEPART U	LATOR	FA/G	G(UGALS)
8	8	2	8	8	8	\$278.35	4733.00	0.0	0.0	0.00	9.8	8	5278.35
90 5397	2.19	8	10.00	2.3 2.3	4.97	524.28	4652.00		0.9	0. 0	0.0	17.05	5205.42
8 1997	74.7	8	8.8	19.4	8	5247.25	4658.00	5.82		8.00	1.15	92-7-	5188.42
4700.00	18	8.0	8.8	4.61	4.26	5270.58	00.2399	9.14		35.00	8.07	13.50	5181.69
4657.00	8.77	8.0	33.00	8.07	17.76	5216.5/	00.5394			8.8	16.13		5158.05
67.77	13.15	9.0	33.00	8.07	12.73	5191.01	4618.00			30.00	6.91		5144.08
66.8333	16.07	9.0	10.00	2.30	7.05	5201.64	455.00			8.8	5.76		5144.66
4672.00	18.27	0.0	8.8	5.76	-5.69	5219.12	00.8997			10.00	2.30	-	5139.55
4734.00	21.19	8.0	9.0	0.0	0.0	\$200.24	00.5657	27.42	8.	-10.00	-2.30		5212.22
4733.88	×	8.	8.	8.	8.	27.12	4763.00			8	8	8	5278.35

	>>>		DATA SUBBARY		*************	***************************************	•	>>>		DATA SURMARY		*********	***********
PROCESAR: udb11	: wdb11		FILE: (TLE: wdb11.gpf			PROGRAM: wdb12	: mdb12		FILE: 1	FILE: MCb12.gpf		
INSE ST	BASE STATION (X.Y)	100 110	110					:					
WOOD STATE	PCECECACE ELEV						MARE SIA	MAKE STATION (X,Y)		110			
DEWCITY			;				REFERENCE ELEV.	Z ELEV.	549.21	~			
		?					DENSITY		1.8				
CRID ROTATION	TATION	0					GRID BOTATION	ATION	6				
METER FACTOR	ACTOR	1,00008	800				STATE SALTING	£174		3			
REFEREN	REFERENCE READING	1887						PERSONAL PERSONAL		8			
LATITUDE	•	0343000	8				ACTOREM.	A REMOINE	8	,			
TOMOT LIDE	2	8						!	0000	R			
DATE		000000	0				TOME I TOME	*	8				
		FIELD DAT		A AND RESULTS >	1	•	DATE		080299	080289			
											KE SKE IS A		; ; ; ;
STATION		coord(x, y)	ELEV	MK!T	READ ING	G G(UGALS)	STATION	0000	COORD(X,Y)	ELEV	## T	READ ING	e ecuents)
-	100.00	110.00	549.21	15.4	4763	5278.4	-	8					
N	8.8	140.00	\$47.19	15.5	2983	5235.1	- •	3 5	3 3	17.X	5.5	4739	5278.4
m	8.8	160.00	549.31	•	4636	5137.6		3.5	3 5	× × · · ·	15.9	4787	5298.5
4	0.0	8.8	•		0297	5142.6	•	30.00	8	×9.39	16.0	7172	\$20°8
ب	8.0	•			977	\$155.3	• •	110.00	100.00	27.0X	16.0	4733	\$276.0
•	80.08				200.7	5215.2	^	8.09	36.8	% %	16.0	\$73	5271.4
~	8				7	5,500,5	• 1	90.02	8 8	\$49.12	16.1	4749	5258.6
. «	15.00	8	•		3777	K101 /	•	80.08	8.0	\$47.19	16.1	4857	\$227.6
	8	200	•		ķ	2.141.2 2.44.2	10	80.08	120.08	27.675	16.2	4747	5261.1
٠ \$	8 8	3 5	. •	2 4			5	120.02	120.00	278.51	16.2	6778	52%.3
2	3	3	•	<u></u>	4(3)	36/6.4	10	100.00	110.00	549.21	16.3	4767	\$278.4
			CORRECTIONS	į		# P P P P P P P P P P P P P P P P P P P	# 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	Ĭ	8	CORRECTIONS	į		
READING	52157	1106	DEPART	LATOE	₹ 8	c(nevrs)	READING	DRIFT	1106 0	DEPART	7	FA/08	COUCAU S)
4763.00	8.0	8	00.0	8	8.6	5278.33			•				
00 0999	•	8	-45	10 4-	24 271-	674K 10	B.Act.	3	00-0	8	8.0	8.	5278.35
00 9537		8	5	53 11-		K117 K0	4787.00	1.7	8.	8. 8.	-6.91	-1.42	5296.53
60 0297		8 8	2 5	6	10.43	51.23 S.K	4722.00	2.42	8	10.00	2.30	12.55	5250.82
20 0777		3 8	3 8	, ·	7 :	316.30	6733.00	3.11	8	10.00	2.30	4.97	5276.04
		3 8	3 8		6.3	125.66	4770.00	3.80	0.00	-20.00	-4.61	-10.43	5271.40
7,401		3 8	3 8		× •	51.51.55	00.9774	70.4	0.0	10.00	2.30	6.43	528.62
24.1.00		3 8	3 8	9 ;		3600.4V	4857.00	5.83	8	-30.00		-143.77	\$27.55
3,700		3 8	3 8	9.79	\$ i	2191.5/	4747.00	6.91	9.8	-10.00		4.97	5261.15
30.00	8 5	3 8	3 8	5 6	, t	2 1	4779.00	3.5	°.8	-10.00	-2.30	8.4	52%.31
3		3	3	3	3	34/6.33	4767.00	3 .	9.0	8	9.0	0.0 0.0	5278.35

			F11: 1	FILE: wabi3.gpf			PROGRAM: MCD14	¥00.		FILE: wdb14.gpt	D14.80f		
ASE STAT	BASE STATION (X,Y)	100 110	110				BASE STAT	BASE STATION (X,Y)	100 110	5			
REFIRENCE ELEV.	ELEV.	549.21	-				REFERENCE ELEV.	ELEV.	549.21				
DEKBITY		1.8					DENSITY		7.0				
CATO ROTATION	1104	0					GRID ROTATION	1100	0				
METER FACTOR	TOR	1,08008	8				WETER FACTOR	10	1.06006	59			
EFERENCE	REFIGRENCE READING	7887					REFERENCE READING	READ ING	7887				
LATITUDE		0343000	0				TATITIDE		0343000	_			
LOWITTUDE	.	0.06					307115001		8.0				
DATE		080289					DATE		080289				
) data	-< FIELD DATA	DATA AND	AND RESULTS >	9	(a round			< FIELD DATA AND RESULTS >-	MTA AID I	EGULTS >	!	
10 T	(1,4,1)	(Ac.)	CECA	¥ ,		:	TOTAL STATE OF THE	(A, Y)	(4,1)				
-	100.00	110.00	549.21	16.3	4767	5278.4	*	8	110.00	549.21	16.9	1187	7,573
~	80.00	160.00	\$47.08	16.4	287	\$230.3	8	110.00	140.00	87.6%	17.0	3	\$307.8
n	8.8	120.00	549.35	-	4735	5263.3	~	340.00	160.00	X6.X	17.0	4817	5269.7
4	130.00	140.00	\$49.26	16.5	4812	5310.3	•	150.88	100.00	278.27	17.1	*	\$247.2
8	100.00	150.00	549.27		4801	5292.3	•	170.00	120.00	549.10	17.1	23	\$287.8
•	15.00	8,8	\$49.24		4706	518.3	•	110.00	170.00	549.37	17.2	1927	200.1
7	0.0	130.00	\$49.39		629	5162.7	~	100.00	150.00	549.27	17.3	837	5265.7
₩	8.8	8.8	\$49.39	16.7	1217	\$220.3	80	8.8	180.00	549.17	17.3	4776	5178.8
۰	90.09	120.00	547.17	16.8	4554	\$266.9	٠	8.8	130.00	549.19	17.4	5 842	\$200.2
5	80.00	160.00	249.40		4763	9.9525	2	100.00	8.02	549.24	17.5	8787	5286.7
=	100.00	110.00	549.21	16.9	1181	5278.4	#	100.00	110.00	549.21	17.6	1947	\$278.4
	*		CORRECTIONS	ż		, 1 4 9 9		Y		CORRECTIONS	į		
READING	DRIFT	T10E D	DEPART	LATDE	FA'G	G(UGALS)	READ ING	D#187	7106	DEPART	žį.	FX/8	e(news)
267 30	8	5	8	8	5	57 KC						٠,	
00 0287	8 8	3 8	3 5		3	K270 27	DO. (1884)	3 2	3 3	3 5	8 3		X/8.35
3		3 8	3 5				B. 1187	9.7	8	B. 05	Ş. 0		2707
M. CC.	0.7	3 3	3.0	R		5005.67	4817.00	\$.	8.	š. 8	÷.x		X2.85.73
215-00	13.07	8 3	20.00		5.	5510.28	4784.00	7 .	8.0	5 8	% %		27.72
80.100	17.82	8 8	80.0	27.4.	8	5292.30	4822.00	12.33	°. 8	-10.00	-2.30	-	297.78
6705.00	22.78	8 8	15.00	9	2.13	518.2	4789.00	17.07	8.	9 .08	-13.83		2020.08
4679.00	28.51	0.0	20.00	10.4-	12.55	5162.73	00,9634	19.92	9.0	8.9	-9.22		52003
£727.00	80.08	8	12.8	. 45 54.	12.55	\$220.27	4776.00	22.78	8.8	8.8	-16.13	-2.8K	5198.81
4926.00	35.64	8.	-10.00	٠. ک	-143.19	5266.95	4442.00	23.61	9.0	-20.00	-4.61	-1.42	5280.20
4763.00	39.21	9.0	-50.00	-11.52	13.26	526.55	CU 8767	5	8	-10 00	20	2 44	Come 74
									3	3.5	7		

PROGRAM: wdb15	25		FILE: w	TLE: web15.gpf			PROGRAM: wdb16	M M D 16		FILE: W	FILE: wdb16.gpf		
MARE STATION (X,Y)	10# (X,Y)	100 110	0				LAME ST.	BASE STATION (X.Y.)	100	110			
HEFENENCE ELEV.	ELEV	549.21	_				M161134	BEFFEROR FLEV.					
SEMBITY		1.8					DENSITY		1.8	•			
CRID ROTATION	191	0					CRID NOTATION	TATION	0				
WETER FACTOR	Į,	1.08008	×				NETER FACTOR	ICTOR	1.08008	8			
REFERENCE READING	READ ING	7987					REFERENCE	REFERENCE READING	7987				
LATITUDE		0005750	~				LATITUDE	м	0343000	0			
JONG! TUDE		8.0					FONCT TUDE	*	90.0				
DATE		662080					DATE		080289				
		-< FIELD DAT	ATA AID	A AND RESULTS >					- FIELD	DATA AND	-< FIELD DATA AND RESULTS >		1
ETATION	COOMD(X,Y)	(x, v)	נונג	1186	READ 1 NG	S GCUGALS	STATION	0000	COORD(X,Y)	ELEV	Ĭ	READING	e(newrs)
-	100.90	110.00	549.21	17.6	1367	5278.4		100.00	110.00	549.21	18.0	983	5278.4
2	8.	150.00	549.21	17.7	1287	5239.1	~	140.00	110.00	549.24	18.0	0534	5226.1
n	8.8	105.00	549.45	17.7	£73	5211.7	n	120.00	160.00	549.30	18.1	287	\$268.3
•	8 .8	180.00	27.02	17.8	6067	5166.5	•	8.8	150.00	549.21	18.1	9287	\$223.8
~	8.8	18.8 8	549.13	17.8	1647	51%.0	'n	8.8	140.00	\$49.33	18.1	9087	5200.7
•	130.00	60.09	549.17	17.8	5 75	5181.6	•	15.00	115.80	\$49.33	18.2	%	5188.2
7	130.00	100.00	2.63	17.9	1034	5252.2	_	110.00	140.00	549.31	18.3	4931	5321.1
•	160.00	110.00	549.14	17.9	1987	5268.5	•••	170.00	140.00	\$49.08	18.3	4.891	5286.0
•	140.00	130.08	\$49.16	17.9	1987	5271.7	•	130.00	110.00	549.15	18.3	4916	5291.2
5	100.00	110.00	549.21	18.0	9987	5278.4	01	110.00	120.00	249.47	18.4	7	\$200.4
							=	100.00	110.00	\$49.21	18.4	. 307	5278.
	Y	8	CORRECT TONS	Å					{				
EEAD THE	DELFT	1106	DEPART	1410K	FA/S	G(UCALS)			§	CONTROL 1083	į		• • • • •
i	i	i					READING	DRIFT	1106	DEPART	CATOE	FAG	GCUCALS
1847.00	0.0	9.0	9.0	8.	0.0	5278.35							
6821.00	ë.	0.0	-40.00	-9.22	9.8	5239.09	7866.00	0.0	9.0	9.0	9.0	9.0	5278.35
873.80	6.3	8.0	8.8	1.15	17.05	5211.74	06:0037	5.54	0.0	0.0	0.00	2.13	5236.06
00.6063	6.8 48.9	0.0	ج. 8.6	-16.13	-155.84	5166.30	00.0784	2.23	0.0	-50.00	-11.52	6.39	5268.31
6797.00	8.79	8.0	3.8	-13.83	-5.69	51%.04	4636.00	12.92	9.8	-40.00	-9.22	0.0	5223.81
6756.00	11.73	o. 8	8.8	16.13	-2.84	5181.63	00'9087	16.61	9.0	-30.00	-6.91	8.53	5200.71
6634.00	13.68	9.0	10.00	2.30	F.0.	525.22	47%.00	22.14	9.0	-5.00	-1.15	8.76	5188.21
6857.00	15.64	9.0	°.0	8.	.4.97	5268.54	4931.00	27.68	0.0	30.00	-6.91	7.10	5321.07
00.1981	16.61	8.0	-20.00	-4.61	R. 5.	87.73	00.1664	X3.21	9.0	-30.00	-6.91	-9.24	\$25.99
666.00	X.8	8.8	0.0	0.0	9.0	5278.35	4916.00	36.98	8.	8.0	8.0	-4.26	5291.19
							00.0064	40.59	8.8	-10.00	-2.30	18.23	5290.41

0.60 5278.35

0.00

0.00

8.8

4.2

4907.00

***************************************	>>> ₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊₊		DATA SUBBARY	AY >>> *********************************		••••••		>>>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		TA SUBLA	DATA SURGAT >>> *********************************		********
PROGRAM: wdc11	wdc11		FILE: N	FILE: wdc11.gpf			PROGRAM: wdc12	udc12		FILE: wdc12.gpf	c12.gpf		
BASE STAT	BASE STATION (X.Y)	100	110				BASE STATION (X,Y)	10H (X,Y)	100 110	10			
REFERENCE ELEV.	ELEV.	549.21	_				REFERENCE ELEV.	ELEV.	549.21				
DEMSTIT		1.8					DENSITY		1.8				
CRID FOTATION	11017	0					CRID MOTATION	T10#	0				
METER FACTOR	100 100	1.06006	8				METER FACTOR	100	1.08008	•			
REFERENCE READING	READING.	1987					REFERENCE READING	READ ING	1987				
LATITUDE		0343000	0				LATITUDE		0343000	_			
SQUITUDE		8. 0.					AUT 10HOJ		8.0				
DATE		000389					DATE		000369				
		· FIELD	DATA AND	FIELD DATA AND REBULTS >-					FIELD I	ATA AMD I	< FIELD DATA AND RESULTS >		:
STATICE	COORD(X,Y)	X,Y	ELEV	1186	READING	G GCOCALS)	STATION	COCHE (X,T)	(x,7)	ELEV	# .	READING	C(UGALS)
-	100.00	110.00	549.21	16.8	9187	5278.4	•	100.00	110.00	549.21	17.1	23	5278.4
۰ ~	150.00	350.88	\$49.93	•	4827	5273.7	~	30.08	150.00	549.24	17.2	4735	51%.1
'n	110.00	180.00	27.5%		252.7	5229.1	n	9.0	190.00	\$49.33	17.2	£678	5104.9
•	8.0	13.8	549.41		4768	5225.3	•	110.00	20.00	549.12	17.3	4748	5152.3
v	8.9	200.00	549.37	17.0	4700	5141.7	~	8.8	80.00	\$49.15	17.3	4728	5134.2
•	10.00	180.00	349.45		553	5138.4	•	8.8	18.8 8	\$49.15	17.4	22	5193.3
7	8.8	220.00	\$47.15	17.0	2	5141.2	7	10.8	180.00	349.40	17.4	1997	5107.1
•	8.8	180,08	\$49.15		67. 87.	5161.5	••	8.8	150.88 8.08	549.41	17.5	4743	5166.1
•	100.00	110.00	549.25		0287	5278.4	•	18.8 8.8	110.00	549.21	17.5	3	3273.4
	Y		CORRECTIONS	į		•			8	CORRECTIONS	į		
READIW	11130	3011	DEPART	נאלעו	FA/8	e(naves)	READING	7134	1106	DEPART	LATDE	F.V.08	G(UGALS)
4816.00	8.0	8.0	8.0	8.0	8.0	5278.35	4822.00	8.0	8.0	8.0	8.	:	5278.35
60,1287	65.0	8	ج. 8	-4.61	-11.37	\$273.66	475.80	2.	9.8	00.03-	-9.22	2.13	51%.11
4783.00	8.0	9.0	8.8	-16.13	3.55	\$229.14	678.00	7.8	0.0	-90.00	-18.44	8.53	5104.92
4768.00	1.37	9.8	60.09	-13.63	13.97	5225.TI	4748.00	14,37	9.0	-110.00	·8.35	_	5152.31
4700.00	 %	8.8	-80.00	-20.74	11.37	5141.72	4728.00	17.56	8.8	8. 8.	-20.74		514.2
00:1697	2.36	9.8	9.6	-16.13	13.50	5138.35	4785.00	22.35	9.0	-90.00	-18.44		5153.23
4651.00	5.8	0.0	-110.00	-8.35	-146.61	5141.25	661.00	27.14	°.8	8.8	-16.13		\$107.06
4730.30	3.53	8.	8. P.	-16.13	4.7	5161.53	4743.00	31.93	8.0	8.9	-9.22		5166.08
00.0287	7.32	9. 8	0.0	8.0	9.8	5278.35	00.9587	8.7	8.8	8.8	8.8	8	5278.35

FILE: wice-april 110 6008 7 7 6008 PATE PERIOD 9000		***************************************	- CCC DATA BURNAT	**************************************		
NATION (K,Y) 100 110 1	FILE: wdc9.gpf	PROGRAM: wdc10	זוו	FILE: wdc10.gp/		
### 1.8 **TITION OF THE PROPERTY OF THE PROPE						
1.8 1.8		MAR SIATION (A,T)				
ACTOR		REFERENCE ELEV.	549.21			
COOMD(X,Y) ELEV TIME READING CUCALS) EFFER TOO.00 170.00	· ·	PERSTY	1.8			
COORDING 1,000000 Coording 1,000000 Coording	•	GRID BOTATION	0			
COOMD(X,Y) ELEV TIME READING G(UEALS) ESTATE PO.00	1.06008					
COOMBC(X,Y) ELEV	1987	ACIES PACIES	9000			
COORD (X, Y) ELEV TIME READING GUCALS) ETAY	0343000	REPERENCE NEAD INC				
COORDICK,T) ELEV TIME READING GUCALS) STATE	20.0	CATITUDE	034,3000			
COORD (X,T) ELEY TIME READING GUIGALS STAN 100.00 110.00 549.21 15.5 4775 5278.4 20.00 170.00 549.21 15.6 4706 5204.4 20.00 170.00 549.27 15.6 4706 5204.4 20.00 170.00 549.27 15.6 4665 5157.2 20.00 150.00 549.27 15.6 4665 5157.2 20.00 150.00 549.27 15.6 4665 5157.2 20.00 150.00 549.27 16.0 4669 5132.1 20.00 210.00 549.27 16.0 4669 5132.1 20.00 210.00 549.27 16.2 4701 5278.4 20.00 210.00 249.27 16.2 4701 5278.4 20.00 210.00 249.21 16.2 4701 5278.35 20.00 0.00 0.00 0.00 0.00 5278.35 20.00 15.00 15.05 12.79 5184.41 20.00 250.00 11.52 0.71 5267.54 20.00 250.00 11.52 0.71 5267.54 20.00 250.00 250.00 250.01 2267.54 20.00 250.00 250.00 250.01 2267.54 20.00 250.00 250.00 250.01 2267.54 20.00 250.00 250.00 250.01 2267.54 20.00 250.00 250.00 250.01 2267.54 20.00 250.00 250.00 250.01 2267.54 20.00 250.00 250.00 250.01 2267.54 20.00 250.00 250.00 250.01 2267.54 20.00 250.00 250.00 250.01 2267.54 20.00 250.00 250.00 250.01 2267.54 20.00 250.00 250.00 250.01 2267.54 20.00 250.00 250.00 250.01 2267.54 20.00 250.00 250.00 250.01 2267.54 20.00 250.00 250.00 250.01 2267.54 20.00 250.00 250.00 250.01 2267.54 20.00 250.00 250.00 250.01 250.01 250.01 20.00 250.00 250.00 250.01 250.01 250.01 20.00 250.00 250.00 250.01 250.01 20.00 250.00 250.00 250.01 250.01 20.00 250.00 250.00 250.01 250.01 20.00 250.00 250.00 250.01 250.01 20.00 250.00 250.00 250.01 250.01 20.00 250.00 250.00 250.01 250.01 20.00 250.00 250.00 250.01 250.01 20.00 250.00 250.00 250.00 250.00 20.00 250.00 250.00 250.00 20.00 250.00 250.00 250.00 20.00 250.00 250.00 250.0	080389	LONGITUDE	0.04			
100.00 110.00 549.21 15.5 4775 5278.4 1 1 1 1 1 1 1 1 1			< FIELD DATA AND RESULTS >	NO RESULTS		
100.00 110.00 549.21 15.5 4775 5278.4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ELEV TINE READING	STATION COOM	COORD(X,Y) ELEV	T114E	MEAD IN	ECUCALS)
80.00 170.00 549.41 15.6 4708 5204.4 20.00 210.00 549.27 15.6 4611 5078.4 20.00 105.00 549.27 15.6 4611 5078.4 20.00 140.00 549.27 15.8 4660 5184.4 100.00 160.00 549.22 15.9 4724 5267.6 100.00 110.00 549.27 16.0 4663 5132.1 80.00 200.00 549.27 16.0 4663 5132.1 80.00 200.00 549.27 16.0 4663 5148.4 100.00 110.00 549.21 16.2 4791 5278.4 0.00 0.00 0.00 0.00 0.00 5278.35 1.69 0.00 -13.63 13.97 5264.44 4.779 6.32 0.00 -100.00 -73.05 4.02 5078.40 6.32 0.00 -30.00 -13.63 12.79 5184.41 8.01 0.00 -30.00 -6.91 12.79 5184.41 9.69 0.00 -50.00 -10.50 0.71 5267.54 12.22 0.00 -50.00 -25.05 11.52 0.71 5267.54 13.71 0.00 -90.00 -20.74 4.02 5132.14 13.72 0.00 -90.00 -20.77 5.05 118.35 13.21 0.00 -90.00 -20.77 5.05 118.35 13.22 0.00 -90.00 -20.77 5.05 118.35 13.21 0.00 -90.00 -20.77 5.05 118.35 13.21 0.00 -90.00 -20.77 5.05 118.35	549.21 15.5 4775		10 075 W ULL	24 14 2	106.7	7 84.03
20.00 210.00 549.27 15.6 4611 5078.4 0.00 105.00 549.25 15.7 4665 5157.2 20.00 140.00 549.25 15.7 4665 5157.2 20.00 140.00 549.22 15.9 4786 5267.6 100.00 100.00 549.27 16.0 4669 5132.1 80.00 200.00 549.27 16.0 4669 5132.1 80.00 200.00 549.21 16.2 4791 5278.4 100.00 110.00 549.21 16.2 4791 5278.4 0.00 0.00 0.00 0.00 5278.35 1.69 0.00 -15.83 15.97 5264.4 4.773 8.01 0.00 -100.00 -73.05 4.02 5078.40 6.32 0.00 -100.00 -73.05 4.02 5078.41 8.01 0.00 -30.00 -15.83 13.97 5264.41 8.01 0.00 -30.00 -6.91 12.79 5164.41 9.69 0.00 -50.00 -15.53 5122.14 12.22 0.00 -90.00 -20.74 4.02 5148.35 12.22 0.00 -90.00 -20.77 4.02 5148.35 12.22 0.00 -90.00 -20.77 4.02 5148.35	170.00 549.41 15.6 4708			·	77.0	
0.00 105.00 549.25 15.7 4665 5157.2 20.00 140.00 549.25 15.9 4784 5267.6 100.00 160.00 549.22 15.9 4784 5267.6 100.00 210.00 549.27 16.0 4669 5132.1 80.00 200.00 549.27 16.0 4669 5132.1 80.00 200.00 549.27 16.2 4791 5278.4 100.00 110.00 549.21 16.2 4791 5278.4 0.00 0.00 0.00 0.00 5278.35 0.00 0.00 0.00 0.00 5278.35 1.69 0.00 -13.63 13.97 5204.44 2.75 0.00 -100.00 -73.05 4.02 5078.40 8.01 0.00 -30.00 -13.53 13.21 8.01 0.00 -30.00 -6.91 12.79 5164.41 9.69 0.00 -50.00 -13.53 5122.14 4.773 9.69 0.00 -50.00 -23.05 3.55 5122.14 12.22 0.00 -90.00 -20.74 4.02 5148.35 12.22 0.00 -90.00 -20.77 4.02 5148.35	549.27 15.6 4611	3 5				
20.00 140.00 549.39 15.8 4690 5184.4 20.00 160.00 549.22 15.9 4784 5267.6 100.00 210.00 549.22 15.9 4784 5267.6 100.00 210.00 549.27 16.0 4669 5132.1 80.00 200.00 549.27 16.0 4663 5148.4 100.00 110.00 549.21 16.2 4791 5278.4 9 OURRECTIONS 0.00 0.00 0.00 0.00 0.00 5278.35 1.69 0.00 -13.83 13.97 5264.4 4784 0.00 0.00 -100.00 -73.05 4.02 5078.40 0.37 0.00 -100.00 -73.05 4.02 5078.41 0.00 0.00 -100.00 -73.05 4.02 5078.41 0.00 0.00 -100.00 -73.05 4.02 5078.41 0.00 -30.00 -13.83 13.97 5267.54 0.00 -30.00 -6.91 12.79 5164.41 0.00 -30.00 -30.00 -23.05 5122.14 0.00 -90.00 -20.00 -23.05 5122.14 0.00 -90.00 -20.07 4.02 5148.35 0.00 -90.00 -20.07 5267.55 0.00 -100.00 -20.07 5267.55 0.00 -100.00 -20.07 5267.55 0.00 -100.00 -20.07 5267.55 0.00 -100.00 -20.07 5267.55 0.00 -100.00 -20.07 5267.55	105.00 549.25 15.7 4465					276
100.00 160.00 549.22 15.9 4784 5267.6 6 100.00 210.00 549.22 16.0 4669 5132.1 80.00 200.00 549.27 16.0 4669 5132.1 80.00 110.00 549.21 16.2 4791 5278.4 9 100.00 110.00 549.21 16.2 4791 5278.4 9 0.00 0.00 0.00 0.00 0.00 5278.35 4791 0.00 0.00 0.00 0.00 5278.35 4791 0.00 0.00 0.00 0.00 5278.35 4791 0.00 0.00 -13.83 13.97 5264.4 4789 0.00 -100.00 -73.05 4.02 5078.40 4675 0.00 -30.00 -13.83 13.97 5264.4 4775 0.00 -30.00 -13.83 13.97 5264.4 4775 0.00 -30.00 -13.83 13.97 5264.4 4775 0.00 -30.00 -30.00 -23.05 5152.14 4775 0.00 -30.00 -20.00 -23.05 5152.14 4773	549.39 15.8 4690	200.000			į	2.00
100.00 210.00 549.26 16.0 4669 5132.1 7 80.00 200.00 549.27 16.0 4663 5148.4 8 100.00 110.00 549.21 16.2 4791 5278.4 9 100.00 110.00 549.21 16.2 4791 5278.4 9 0.00 0.00 0.00 0.00 0.00 5278.35 4791 0.00 0.00 0.00 0.00 5278.35 4791 0.00 0.00 -13.63 13.97 5204.44 4791 0.00 0.00 -100.00 -73.05 4.02 5078.40 4692 0.32 0.00 -30.00 -13.63 13.97 5204.41 4775 0.00 -30.00 -13.63 13.97 5204.41 4775 0.00 -30.00 -6.91 12.79 5164.41 4775 0.00 -30.00 -20.74 4.02 5148.35 4703	549.22 15.9 4784	4			225	21%
80.00 200.00 549.27 16.0 4663 5148.4 8 100.00 110.00 549.21 16.2 4791 5278.4 9 100.00 110.00 549.21 16.2 4791 5278.4 9 O.00 0.00 0.00 0.00 0.00 5278.35 4791 0.00 0.00 0.00 0.00 5278.35 4791 0.00 0.00 0.00 0.00 5278.35 4791 0.00 0.00 -13.83 13.97 5264.4 4781 0.00 -100.00 -73.05 4.02 5078.40 4.02 0.32 0.00 -30.00 -73.05 4.02 5078.41 4775 0.00 -30.00 -6.91 12.79 5164.41 4775 0.00 -30.00 -50.00 -11.52 0.71 5267.56 4.02 0.00 -30.00 -20.00 -20.74 4.02 5148.35 4703	549.26 16.0 4669	20 00 00 ×			į,	7.5515
100.00 110.00 549.21 16.2 4791 5278.4 9 CORRECTIONS 0.00 0.00 0.00 0.00 0.00 5278.35 1.69 0.00 -60.00 -13.63 13.97 5264.44 4781 3.79 0.00 -100.00 -73.05 4.02 5078.40 6.32 0.00 5.00 1.15 2.84 5157.21 8.01 0.00 -30.00 -6.91 12.79 5164.41 9.69 0.00 -50.00 -11.52 0.71 5267.56 12.22 0.00 -90.00 -23.05 5122.14 4773 13.21 0.00 -90.00 -20.74 4.02 5148.35 4773	549.27 16.0 4683	e e			1047	5111
DRIFT TIDE DEPART LATDE FAJGS GUGALS) 0.00 0.00 0.00 0.00 0.00 5278.35 1.69 0.00 -15.63 13.97 5264.44 3.79 0.00 -100.00 -73.05 4.02 5078.40 6.32 0.00 5.00 1.15 2.84 5157.21 8.01 0.00 -30.00 -6.91 12.79 5184.41 9.69 0.00 -50.00 -11.52 0.71 5267.54 12.22 0.00 -100.00 -25.05 3.55 5132.14 4.703 12.22 0.00 -90.00 -20.74 4.02 5148.35 4.703	549.21 16.2 4791	4 100.00			4816	\$278.4
0.00 0.00 0.00 0.00 0.00 0.00 5278.35 1.69 0.00 -60.00 -13.83 13.97 5204.44 3.79 0.00 -100.00 -73.05 4.02 5078.40 6.32 0.00 5.00 1.15 2.84 5157.21 8.01 0.00 -30.00 -6.91 12.79 5184.41 9.69 0.00 -50.00 -11.52 0.71 5267.54 12.22 0.00 -100.00 -22.05 3.35 5132.14	CORRECTIONS		CORRECTIONS			
0.00 0.00 0.00 0.00 0.00 5278.35 1.69 0.00 -60.00 -13.83 13.97 5204.44 3.79 0.00 -100.00 -73.05 4.02 5078.40 6.32 0.00 -100.00 -73.05 4.02 5078.40 6.32 0.00 -30.00 -6.91 12.79 5184.41 9.69 0.00 -50.00 -11.52 0.71 5267.54 12.22 0.00 -100.00 -25.05 3.55 5132.14 13.91 0.00 -90.00 -20.74 4.02 5148.35	DEPART LATDE FAJGE	READING DRIFT	TIDE DEPART	LATDE	8/4	e(UCALS)
1.69 0.00 -60.00 -13.83 13.97 5204.44 3.79 0.00 -100.00 -73.05 4.02 5078.40 6.32 0.00 5.00 1.15 2.84 5157.21 8.01 0.00 -30.00 -6.91 12.79 5184.41 9.69 0.00 -50.00 -11.52 0.71 5267.54 13.22 0.00 -100.00 -25.05 3.55 5132.14 13.91 0.00 -90.00 -20.74 4.02 5148.35	0.00 0.00 0.00					
3.79 0.00 -100.00 -73.05 4.02 5078.40 6.32 0.00 5.00 1.15 2.84 5157.21 8.01 0.00 -30.00 -6.91 12.79 5184.41 9.69 0.00 -50.00 -11.52 0.71 5267.54 12.22 0.00 -100.00 -25.05 3.55 5132.14 13.91 0.00 -90.00 -20.74 4.02 5148.35	-60.00 -13.83 13.97				3 3	20,073
6.32 0.00 5.00 1.15 2.86 5157.21 6.01 0.00 -30.00 -6.91 12.79 5186.41 9.69 0.00 -50.00 -11.52 0.71 5267.56 12.22 0.00 -100.00 -25.05 3.55 5132.16 13.91 0.00 -90.00 -20.74 4.02 5148.35	-100.00 -73.05 4.02					2.02
8.01 0.00 -30.00 -6.91 12.79 5184.41 9.69 0.00 -50.00 -11.52 0.71 5267.54 12.22 0.00 -100.00 -25.05 3.55 5132.14 13.91 0.00 -20.00 -20.74 4.02 5148.35	5.00 1.15 2.84					21.41.0
9.69 0.00 -50.00 -11.52 0.71 5267.54 12.22 0.00 -100.00 -25.05 3.55 5132.14 13.91 0.00 -90.00 -20.74 4.02 5148.35	-30.00 -6.91 12.79					2 3
12.22 0.00 -100.00 -25.05 3.35 5132.14 13.91 0.00 -90.00 -20.74 4.02 5148.35	-50.00 -11.52 0.71					CC. 70
13.91 0.00 -90.00 -20.74 4.02 5148.35	-100.00 -23.05 3.55	20.51 00.75	•			510.67
	-90.00 -20.74 4.02		90.04-			3.000
17.28 0.00 0.00 0.00 0.00 5278.35	0.00 0.00 0.00 0.00 5278.35				8 8	X

PROGRAM: wdc7	: wdc7		FILE: 1	FILE: wdc7.gof			:						
173 32M				•			PROGRAM: wdo8			FILE: wdc8.gpf	dos. mpf		
	LASE STATION (X,Y)	100 110	110				BASE STAT	LASE STATION (X.Y.)	100 110	91			
REFERENC	REFERENCE ELEV.	549.21	_				AS 18 SURBERISE	N E EV		-			
DENSITY		1.8					DEMELLY		1.8				
CAID ROTATION	TATION	0					MATERIAL COLOR	100.10	•				
METER FACTOR	ICTOR	1.08006	8				STEEL STATE		1.0000	*			
REFERENC	REFERENCE READING	7887					PEFERENCE PEADING	PEAD ING	3	!			
LATITUDE	LL)	0343000	0				PORTITO!		1002	•			
LONGITUDE	×	8.0					10mg Tube		0.0	•			
DATE		060389					DATE		000309				
		-< FIELD DATA		AND RESULTS >					FIELD DATA AND RESULTS >	DATA AND	ESUTS >		***************************************
STATION	COCHECK,Y)	(x, r)	ELEV	11	READ ING	B GCUGALS)	\$TATION	9000	COOMD(X,Y)	SI CA	11	READ ING	SCUBAL S)
-	100.00	110.00	549.21	14.5	4749	5278.4	-	90.001	110.86	K 937	15.0	• 14.7	276
~	80.08	150.00	\$49.24	•	9897	5203.2	~ ~	13.0	20.00	X . X	15.1	R	224.3
n	8.8	125.00	549.35	14.6	1537	5163.9	n	140.00	120.00	\$49.16	15.1	£ 7	\$250.8
4	8.08	120.00	249.34	14.6	1.67	5201.0	•	170.00	160.00	549.88	15.2	E,	7.152
۰	0.0	105.00	X9.X	14.7	4647	5172.2	•	140.00	1%.00 0.00	549.27	15.3	3	5187.6
•	0.0	120.00	549.26		4647	5169.4	••	100.00	210.00	\$4.38	15.3	44.9	5133.1
7	140.00	200.00	\$49.69		2797	5172.4	~	8.8	50.8	X9.X	15.4	£4	5206.0
•0	130.00	150.00	X9.X		4743	5264.3	**	110.00	130.00	17.675	15.4	16.7	5308.0
٥	100.00	110.00	549.21	15.0	4749	5278.4	٥	100.00	116.00	549.21	15.5	£13	5278.4
	Y		CORRECTIONS	į			0 0 0 0 0 0	•		COMMECTIONS	À	1	
READING	DRIFT	7106	DEPART	JATDÉ.	8	9(00028)	READING	DRIFT	7136	DEPART	LATE	8	CUGALS)
4749.00	0.00	0.0	9.0	0.0	8.	5278.33	00 074.7	8	8	8	8	8	# # # # # # # # # # # # # # # # # # #
4686.00	0.0	0.0	9.0 1 -	-9.22	2.13	5203.22	67.00.00 10.00	3.74	8	9	-13.83	7.81	724
4637.00	0.0	°.8	-15.00	-3.46	8.0	5163.87	4735.00	6.55	8	9.0	2.7	*	280.82
4671.00	0.0	0.0	-10.00	-2.30	9.24	5201.04	4738.00	12.17	9.0	-30.00	-11.52	-11.37	\$231.41
4647.00	8.8	8.	8.8	1.13	7. 7.	5172.18	4492.00	14.8	8.	80.08	-18.44	4.2	\$147.63
647.00	0.0 0.0	0.0	-10.00	-2.X	3.35	5169.43	4449.00	£.71		-100.00	·23.08	3.33	5133.04
6721.00	0.00	9.0	-90.00	×.02.	-6.53	5172.40	4705.00	21.53	8.0	90.03-	4.2	6 .8	5205.97
4743.00	0.00	0.0	60.03-	-9.22	3.5	5264.31	4791.00	25.27	8	8	7	7	20 300
50 0767							11111			•			

			FILE: W	: wdc5.gpf			PROBLAN: wdo6	ardco6		FILE: wdob.gpf	06.gpf		
			3										
MEE STA	ME STATION (X,T)	901	9				BASE STATION (X,T)	10K (X,Y)	100	5			
EFFERENCE	MERIDRENCE ELEV.	549.21	_				REFERENCE ELEV.	ELEV.	549.21				
DECETT		1.8					DEMBITY		1.8				
CRID ROTATION	TATION	0					Carlo action	TION					
NETIER FACTOR	CTOR	1.06006	契				MEYED EACTOR	2	1 00000	•			
EFISIENC	REFISIENCE REJUSTING	1997					PERENGENCE PEROTOR	P. E. S. D. B. C.	7887	?			
LATITUE	bu*	0343000	c				ATTIME I		077.700	_			
LORS: TUDE	¥	8.0					And I town		5				
DATIE		080389					DATE		000389				
	FIELD DA/A AND RESULTS >	· FIELD (MAYA AND I	RESULTS >		0 1 0 0 0 0			FIELD DATA AND RESULTS >	ATA AUD R	ESULTS >-		
STATION	COOMD(X,Y)	(X,Y)	ELEV	1186	READ ING	8 G(UGALS)	87A710M	(X,X)	(X,Y)	ELEV	T.	READING	G(UCALS)
-	5 8.8	110.00	549.21	11.4	1287	\$278.4	-	90 00	110.00	549.21	12.3	8227	5278.4
~	8.8	130.00	37.6X	11.4	£13	\$220.4	۰ ،	5	00 07	\$49.22	12.3	1111	5273.0
m	40.00	170.00	549.30	11.5	121	5153.2	3 3*	170,00	160.30	\$49.05	12.4	12.	5233.2
4	80.08	130.00	X9.23	11.6	4732	\$185.5	•	13.00	180.00	\$49.09	12.4	4713	5188.9
8	8.8	120.00	X9.X	11.6	7225	5189.8	•	140.00	200.00	\$49.09	12.5	9997	5159.7
•	8. 8.	160.00	549.17	11.7	4760	5214.6	•	130.00	120.00	549.11	12.6	4760	5260.3
_	110.00	50.00	249.33	11.8	4810	5286.3	^	8.8	130.00	\$49.26	12.6	473	5246.7
•	150.00	120.00	86.6%	12.0	4766	5232.2	•0	8.8	150.00	549.21	12.7	4755	\$260.4
۵	100.00	110.00	\$49.21	12.2	178	5278.4	Φ.	100.00	110.00	549.21	12.9	4757	5278.4
	Ĭ	8	CORRECT TORIS	į	1	• • • • • •	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	*		CORRECTIONS	į		
DE/O (NC	DRIFT	710E D	DEPART	LATE	7 × 8	G(UGALS)		DRIFT	1106 04	DEPART	LATOE	FA/GB	G(UCALS)
4827.00	8.0	8.0	9.0	0.0	9.8	5278.35	6779.00	8	8	9.0	8.	8.0	\$278.35
477.00	5.4	0.00	8.09	-4.61	3.55	5250.44	6777.00	-2.97	8	-30.00	-6.91		5272.95
4701.00	-8.99	9.0	-60.00	-13.83	12.55	5153.21	874.8	4.73	9.0	-50.00	-11.52	-11.37	5233.21
4732.00	-12.98	0.0	-20.00	-4.61	1.42	5186.53	4713.00	-6.53	0.0	9.00	-16.13	-3.53	5186.94
4722.00	-17.97	9.0	-10.00	-2.30	42.6	5189.85	8.88.9	-8.91	8.0	-90.00	-20.74	-8.53	5159.70
4763.00	-22.97	9.0	-30.00	-11.52	-2.84	5214.58	4760.00	-11.88	9.0	-10.00	-2.30	-7.11	5260.30
4819.00	8.8	0.0	-40.00	-9.22	8.53	5286.26	4736.00	-13.66	9.0	-20.00	-4.61		2546.67
4765.00	.8.8	9.00	-10.00	-2.30	-14.92	\$222.19	00 5527	× 71-	00	-40.00	-9.22	8.	5260.44
) 1 1 1 1 1 1 1 1 1						

>>> **********************************													
PROGRAM: wdc3	ž.		FILE: >	FILE: ade3.gpf			PROCEAS: wdo.	1		FILE: wdos.gpf	104 .gp.		
BASE STA	BASE STATION (X,Y)		100 110				BASE STATION (X,Y)	QW (X,Y)	100 110	110			
REFERENCE ELEV.	E ELEV.	549.21	≂				REFERENCE ELEV.	ELEY.	549.21	•			
DESITY		 					DENSITY		1.8				
CRID NOTATION	ATION	0					GRID BOTATION	101	0				
NETER FACTOR	CTOR	1.06006	900				HETER FACTOR	8	1.06006	8			
REFERENCE	REPENDICE READING	1987					REFERENCE READING	READ ING	7997				
LATITUDE		0343000	8				LATITUDE		0343000	•			
LONG! TUDE		8.0					LONGITUDE		8.0				
DATE		660090					DATE		000390				
		FIELD DATA		AND RESILTS >-		•	FIELD DATA AND RESULTS >		. FIELD	DATA AND 1	ESULTS >		
STAT 108	9000	COORD(X,Y)	ELEV	11.00	2EA0 1 16	G G(UGALS)	STATION	CCOMB(X,Y)	CX,X3	ELEV	11	READ ING	G(UCALS)
-	100.00	110.00	549.21	10.2	1987	5278.4	-	10.00 0.00	110.00	549.21	10.8	1287	\$278.4
~	8.8	140.00	27.6%	10.3	6787	\$233.5	8	150.00	110.00	26.52	10.9	1087	526.7
m	80.08	130.00		10.3	7087	5197.8	n	140.00	150.00	\$49.35	10.9	£	\$28.2
•	9.	55.8			17.	\$127.5	•	160.00 00.00	140.00	\$49.13	11.0	23	5261.7
'n	8.8	120.83 80.83	276.28	10.5	1777	5210.7	•	5.8 8	18U.00	549.14	1.1	4768	5193.5
•	8.8	160.00	549.23	10.6	E.	\$200.8	•	130.00	130.00	549.17	1.1	4839	\$283.9
~	110.00	190.00	549.24	10.6	%	5206.5	~	130.00	180.00	549.17	11.2	7087	5224.5
••	\$.8 8	180.00	549.17	•	153	5252.5	•••	110.00	56.08	549.33	11.2	7587	5306.8
۰	100.00	110.00	549.21	10.8	1287	5278.4	•	100.00	110.00	549.21	11.3	4827	\$278.4
	•		CORRECTIONS	į		9 2 6 8 8	* * * * * * * * * * * * * * * * * * *	¥	8	CORRECTIONS	i		
READ 1110	F	7106	DEPART	Z Z	3	G(UGALS)	READING D	DRIFT	1106	DEPART	LATOR	8	G(UGALS)
00 1007	8	00.0	8	80.0	8	5278.33	4427 .00	8	80	00.0	8	8	\$278.33
876.89	\$5.9	8.0	Ŗ	6.9		2523.47	4801.00	8	8	8	8	6.39	526.66
4,807,00	-13.36	8.0	Ŗ	-4.61	1.42	5197.21	4811.00	0.0	8.8	00.03-	-9.23	6.39	528.24
£774.88	-2.30	0.0	-40.00	-9.22	5.68	\$127.54	4823.00	0.0	0.0	-30.00	-6.91	-5.45	5261.67
4797.00	-31.22	9.0		-2.30	4.97	5210.71	4768.00	0.0	9.0	න.හ ද	-16.13	-4.97	5193.52
4786.00	-42.37	9.0		-11.52	2. 8 4	\$200.79	4639.00	0.0	9.0	-20.00	-4.61	-2.84	5263.86
8.36.	-49.06	8.8		-18.44	2.13	\$208.49	6804.00	8.0	8.0	-X-80	-16.13	-2.84	524.53
4831.00	-57.98	8.8	7	-16.13	-2.84	\$252.54	90°997	9.0	8.	60.03	-9.23	8.53	5306.82
4827.00	-69.13	8.0	8.0	9.0	8.	5278.35	4627.00	8.0	8.0	9.0	8.	8.	\$278.35

4962 5202.0 7 70.00 180.00 549.14 10.1 4812 5166.0 4527.2 4905 5257.2 4905 52
CUCALE) PREADING DRIFT TIDE DEPART LATDE FA/08 5273.35 4903.00 0.00 0.00 0.00 0.00 0.00 5200.80 4872.00 -1.18 0.00 10.00 2.30 4.28 5160.01 4913.00 -2.36 0.00 -5.91 -1.137 -6.85 5207.87 4861.00 -3.93 3.00 0.00 -6.91 -11.37 5203.50 4815.00 -5.50 0.00 -70.00 -16.13 0.00 5201.99 4812.00 -7.07 0.00 -70.00 -16.13 -4.97 5278.35 0.00 -70.00 -10.00 -2.30 -0.71 5218.35 0.00 -70.00 -16.13 -4.97 5278.35 0.00 -10.00 -2.30 -0.71 5278.35 0.00 -10.00 -10.00 -10.00 5201.99 -4.812.00 -11.00 0.00 -10.00 -10.00 5278.3
5273.35 4903.00 0.00 0.00 0.00 0.00 0.00 0.00 5200.80 4872.00 -1.18 0.00 10.00 2.30 4.28 5160.01 4913.00 -2.36 0.00 -30.00 -6.91 -11.37 5207.87 4881.00 -3.93 3.00 -70.00 -6.21 -11.37 5225.90 4815.00 -5.50 0.00 -70.00 -16.13 0.0 5201.99 4812.00 -9.03 0.00 -70.00 -16.13 -4.97 5314.12 4876.00 -11.00 0.00 -10.00 -2.30 -0.77 5278.35 -11.00 -12.96 0.00 0.00 0.00 0.00 0.00
5200.80 4872.00 1,18 0,00 10,00 2,30 4,28 \$166.01 4913.00 -2.36 0,00 -5.91 -11,37 \$207.87 4861.00 -3.93 0,00 -0.00 -6.91 -11,37 \$207.87 4851.00 -5.50 0,00 -70.00 -16.13 0,00 \$203.30 4815.00 -7.07 0,00 -70.00 -16.13 -4.97 \$314.12 4876.00 -11.00 0.00 -10.00 -2.30 -0.77 \$278.35 -10.00 -10.00 -10.00 0.00 0.00 0.00
\$207.87 4881.00 -3.93 3.00 0.00 -4.28 \$225.90 4651.00 -5.50 0.00 -70.00 -16.13 0.00 \$203.30 4815.00 -7.07 0.00 -70.00 -16.13 0.00 \$201.99 4812.00 -9.03 0.00 -70.00 -16.13 -4.97 \$314.12 4876.00 -11.00 0.00 -10.00 -2.30 -0.71 \$278.35 -12.94 0.00 0.00 0.00 0.00 0.00
5225.90 4651.00 -5.50 0.00 -70.00 -16.13 0.00 5203.30 4615.00 -7.07 0.00 -80.00 -18.44 10.42 5201.99 4812.00 -9.03 0.00 -70.00 -16.13 -4.97 5314.12 4876.00 -11.00 0.00 -10.00 -2.30 -0.71 5278.35 491.00 -12.96 0.00 0.00 0.00 0.00
5203.30
5201.99 4812.00 -9.03 0.00 -70.00 -16.13 -4.97 5314.12 4876.00 -11.00 0.00 -10.00 -2.30 -0.71 5278.35 4891.00 -12.96 0.00 0.00 0.00 0.00
5314.12 4876.00 -11.00 0.00 -10.00 -2.30 -0.71 5278.35 4891.00 -12.96 0.00 0.00 0.00 0.00
5278.35 4991.00 -12.96 0.00 0.00 0.00 0.00

	PROGRAM: wdd1		FILE: 1	FILE: wddl.gpf			PROGRAM: wdd2	wdd2		FILE: wdd2.gpf	342.gpf		
MSE STA	MASE STATION (X,Y)	100 110	110				BASE STAT	BASE STATION (X,Y)	100 110	110			
REFERENCE	REFERENCE ELEV.	549.21	-				REFERENCE ELEV.	ELEV.	549.21	-			
DEBISTY		1.8					DENSITY		1.8				
CRID NOTATION	TATION	0					CRID ROTATION	T10#	0				
METER FACTOR	LCTOR	1.08008	8				METER FACTOR	10k	1.06006	8			
REFERENC	REFERENCE READING	7887					REFERENCE READING	READING :	4887				
LATITUDE	μ,	0343000	0				CATITUDE		0343000	9			
LONGITUDE	×	8.0					JOHOT TUBE		90.0				
DATE		667080					DATE -		687080				
		× FIELD	DATA AND	< FIELD DATA AND RESULTS >	•) 1 1 1	0 0 0 0 0 0 0	•	· FIELD	FIELD DATA AND RESULTS >	TESULTS >		
STATION	(Y,X)GEOCO	x,ro	ELEV	11	READING	G G(UGALS)	STATION	COORD(X,Y)	(x, r)	ELEV	1116	READTING	
-	100.00	10.08	549.21	8.0	1667	5278.4	· · · · · · · · · · · · · · · · · · ·	100.00	110.00	549.21	8.5	7967	5278.4
~	100.00	143.00	549.32		1002	5290.7	2	100.00	190.00	549.26	8.6	4915	5191.0
n	140.00	140.00	549.27		58	8270.8	m	140.00	210.00	549.28	8.7	0927	5132.8
•	170.00	120.00	549.10		6267	5257.7	•	130.00	28.8	549.21	8.8	9007	5070.0
s	170.00	200.00	549.15	8.2	4873	5129.0	~	8.09	120.00	549.05	8.9	8267	5271.0
•	130.00	8.8	549.21		9067	5056.8	•	130.00	160.00	549.17	8.9	264	5264.3
~	8.00 8.00	180.00	549.22		4936	\$206.0	^	150.00	130.00	\$49.93	9.0	4963	5278.7
•	8.8	160.00 00.00	X9.0X		\$ \$	5226.0	••	90.00	50.0£	\$49.22	٠.٠	4973	5285.3
۰	8.8	5 8 8	X9.0X	-	24	\$231.8	•	9.0	10.00	549.21	6.1	1981	\$278.4
2	100.00	110.00	\$49.21	8.5	3	5273.4							
	Y	3	RECT TONS				• • • • • • • • • • • • • • • • • • •	*	B	CONTRECT TONS			
							READING	DRIFT	710E D	DEPART	LATOE	FAGE	C(UCALS)
READING	DRIFT	7106 0	DEPART	LATOR	2VG	G(UGALS)							
		-					700.4964	8.8	8.0	8.0	8.8		5278.35
83.8		9.0	8.0	0.0	9.9	5278.35	4915.00	-2.01		-80.00	-18.44		5190.95
2003 2003 2003		9.0	-30.00	-6.91	7.81	5290.72	00.0987	-6.71		-100.00	-23.05	7.7	5132.82
6963	3.5	0.0	8.8	-6.91	7. 7	52.07.28	00.9084	-9.40	8.0	-120.00	-27.66	9.0	5069.99
6979.00	-2.45	0.0	-10.00	-2.30	-7.82	527.71	4978.00	-12.76	8.0	-10.00	-2.30	-11.37	5270.95
6873.00	-3.11	9.0	-90.00	-20.74	4.26	5129.01	4970.00	-15.44	9.0	-50.00	-11.52	-2.84	5264.30
1806.00	5.3	8.	-120.00	-27.66	9.0	5056.81	4963.00	-17.46	8.	-20.00	-4.61	-11.37	5278.75
6936.00	-4.45	9.0	8.8	-16.13	٠. د.	5207.97	4975.00	-20.81	8.	-50.00	-4.61	27.0	5285.31
88.88		0.0	-\$0.00	-11.52	1.42	228.00	4961.00	-24.84	0.0	9.0	°.8	0.0	5278.35
6948.00		8.	-40.00	-9.22	2.8 2.8	521.75							

	>>>####################################	***	DATA SUP	W. >>>		SIRKARY >>> *********************************	>>>qqqqqqqqqqqqqqqq	********		DATA SUPPARY		******************************	•
PROGRAM: wdd3	i: wdd3		FILE:	FILE: wdd3.gpf			PROGRAF: wdd6	5		FILE: wddk.gpf	isk.god		
1													
INSE ST	BLASE STATION (X, Y)		100 110					3	•••	•			
REFEREN	REFERENCE ELEV.	549.21	۲۶.				IVIE SEVE		3	2			
DENSITY		1.8					REFERENCE ELEV.	ELEV.	549.21	-			
70.21.20	70.40	•					DENSITY		1.6				
	141 ICH	.					GRID ROTATION	1011	0				
METER FACTOR	ACTOR.	<u>ح</u>	2000							1			
REFEREN	REFERENCE READING	1887	~				MEIER PACION	<u> </u>	2000	8			
LATITUDE	ΨΨ	0343000	8				REFERENCE READING	READ ING	1984				
LONG! TUDE	30	0.0	•				LATITUDE		0343000	•			
DATE	ı	00000	26				LONGITUDE		8.0				
			.				DATE -		667090				
:		< FIELD DATA		AND REBULTS >-					.≺ FIELD	FIELD DATA AND RESULTS >-	ESULTS >-		
STATION		cooracx, r)	ELEV	# I	READING	R GCUGALS;	STATION	COORD(X,Y)	CX.Y	ELEV	# i	READ ING	CCUCALS
-	100.00	110.00	246.21	40	4947	7 84.65							
٠,	8				1007	*20120	-	100.00	110.00	549.21	10.1	4931	\$278.4
, ,						2619.3	~	110.00	160.00	549.38	10.1	4913	5261.8
٠.	3 5		267.61		3	9063.6	m	120.00	200.00	549.27	10.2	2034	5160.4
, ,	8.65				3	5143.1	4	100.00	190.00	27.5%	10.2	5987	5200.0
` <	3.55	3 5				5.50.5	'n	150.00	220.00	\$49.35	10.4	4740	50 B.O
) ^	20.00					1.6726	•	140.00	180.00	\$49.29	10.4	4876	5224.2
. «	8 8				7 6	200.5	^	100.00	240.00	549.21	10.5	4778	5044.7
	3 8			,	014	0.00	•	150.00	200.00	549.13	10.5	1197	5143.5
•	3.3	8.01	74.7	r. P	1544	3278.4	٥	100.00	110.00	549.21	10.6	4907	\$278.4
			CORRECTIONS				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	*		CORRECTIONS	į		
READTHG	DRIFT	TIDE	DEPART	LA TOE	FA/S	C(UCALS)	READING (DRIFT	1106 0	DEPART	CATDE	FVG 6	C(UCALS)
4957.00	0.0	9.0	9.0	8.0	9.0	5278.35						:	
4903.00	-2.91	0.0	-60.00	-13.83	3.4	5214.54	4931.00	3	8	8	8		32.33
4763.00	-6.78	0.0	-130.00	-29.8	0.0	5045.63	4913.00	.2.36	8	8.0	-11.52		281.82
4846.00		0.0		7.02-	-4.26	5143.14	4832.00	ς.	8	8	7.02		5160.44
6940.00	-13.56	8.8		-13.83	27.1.	5256.29	4865.00	8.	8.	8.08	-18.4		2200.00
483.00		00.00	-50	-11.52	8	57 X 52	4740.00	-13.35	8.	-110.00	·X.33		8.08
4917.00		8		-11.52	.2.84	\$239.18	4876.00	-15.71		8.8	-16.13		224.20
4916.00		00.00	90.09	11.80	10.4-	25.57	475.00	-18.85		-130.00	8.6	8.8	2044.74
W 1307		2	8	3 8		2.00	4811.00	-21.21	9.0	90.06	-20.74	-5.69 5	5143.52
		3	3	3	3	36/6.33	4907.00	-8.%	0.00	9.8	0.0	8.0	\$278.35

			ייייי	FILE: wood.got				PROGRAM: world	***		FILE	FILE: with and		
BASE STA	BASE STATION (X,Y)	011 001	110					EASE STA	EASE STATION (X.Y.)	100 110	110			
REFERENCE ELEV.	Z ELEV.	549.21	21					A3 19 30434334	2					
DENSI 1Y		1.8						PERETT		•	<u>.</u>			
TOT OF THE	ATTON	c								•				
201010 2010	, ,	•	•					CRID ROTATION	TATION	0				
43.54	<u>ر</u>	3	8					METER FACTOR	CTOR	1.06006	900			
REFERSAC	REFERENCE READING	4687							PEFFERENCE PEADING	4887				
LATITUDE		0343000	8								1			
LONG! PUDE	<u>u</u>	8								0000	8			
DATE	!	080489	•					LONGITUDE DATE	*	90.08 860.09	•			
		< FIELD DATA		AND RESULTS >			:			FIELD	FIELD DATA AND RESULTS >-	RESECTS 2		
STATION	0000	coom(x, Y)	ELEV	T.	READING		C(ncals)	STATION	GB 000	COCHECX,Y)	ELEV	11	READ ING	G G(UCALS)
-	2	8			,	•								•
- (8 8 8 8	3 6			2	ń	52/3.4	•	100.00	110.00	549.21	11.3	18	\$278.4
υ,	3 5	20.00				n	5117.3	~	140.00	220.00	549.23	11.4	\$22	\$005.5
1 ·	30.00	3.5			9	ń	552.5	n	110.00	80.00	549.18	11.5	X,	5160.1
e 1	00.06	90.00			7	'n	5253.3	•	150.00	220.00	549.33	11.6	6697	5067.7
Λ.	80.00	80.00			3	.	5157	S	110.00	240.00	549.23	11.7	2897	\$000
٥	140.00	8.8			\$	Ň	5044.0	•	8.6	210.00	\$49.15	11.8	4747	\$12.3
~	120.00	% %			5	'n	5176.8	~	140.00	13.00		11.8	5363	5249.0
4 0	120.08	240.00			F97	Ŋ	9.8205	•	8.8	220,00		11.9	7225	5101.9
۰	100.00	110.00	\$49.21	11.3	7987	iń	5278.4	٥	100.00	110.00		11.9	\$93	\$278.4
	•		CORRECTIONS	i			:				CORRECTIONS	į	į	
READING	DRIFT	TIDE D	DEPART	Z	FA G	G(UGALS)	ALS)	READING	DRIFT	1.0£	DEPART	3 25	3	G(UCALS)
4907.00	00	8.0	9.0	0.0	90.0	5278.35					:			
4779.00	-5.27	8.	-100.00	23.63	-4.97		¥	8,100	3 1	3 :	8	8	8	3274.35
4885.00	-7.24	8	99-	-13.83	4.26		22	87.82.00	£.5.	8 :	-110.80	, i	7. K	3.5
4882.00	-9.88	0.00	-50.00	-11.52	5		; ×	8.4	S	8	8	%. R.	-2.13	5169.10
623.00	-13.17	0.0	80.00	-18.44	-2. BK	\$181. A7		00.669	-12.14	8	-110.00	33	ď.	Z
00.9697	-16.46	00.0	120.00	.27 66	72. 7	3	8	4087.00 100	¥.51-	8	8.8	8.	3.	2020.81
4805.00	-20.42	00.0	8	72.02	8		×	4747.00	-18.97	8	-180.8	: :3	4.23	5125.28
52	A 75.	8	9	8			3 2	4843.00	-21.2S	8	90.09	-13.EG	%	XX6.9
00		3 3	3	2.6	8.3	X 20.0X	ķ	4722.00	13.13	8.0	-110.00	ż.	-2. 2 .	2301.8
3;×														

BASE STATION	Ì			1									
IMSE ST/			1176	rite: woor.gor			PROGRAM: wddB	r dds		FILE: W	FILE: wddb.gpf		
-	BASE STATION (X,Y)		100 110				LASE STA	BASE STATION CX.Y)	100	110			
EFUER	MEFEI ENCE EL EV.	549.21	21				AFFERENCE FLEV	F 61 6V		· •			
DEDIST TY		1.8					>+ i a n g c		;				
CRID ROTATION	TATION	٥					GRID ROTATION	ATION	· -				
HETER FACTOR	CTOR	1.06006	900						,				
EFEIEK	REFEIENCE READING	1987					Se SURSesse	METER PACION		8			
LATITUDE	4.,	0343000	8				METCACHE.	A NEW IN	8	,			
LONG! TLDE	¥	8.0							0005450	R			
DATE		0804.89	•				DATE _	y	0.00	_			
		-< FIELD	DATA AND	RESULTS					* FIELD	-< FIELD DATA AND RESULTS >	RESULTS >-		
STATION	COORD(X,Y)	(x, y)	ELEV	T1 186	READ ING	G G(UGALS)	STATION	(X,X)	6 ,73	ELEV	1	READING	פנחכשר \$)
-	100.00	110.00	549.21	12.0	£83.	\$278.4		5 5	5	20.073	, ;;		
~	130.00	220.00	549.16	12.0	133	\$120.4	۰ ۸	9		2,07	· ·	į	2010.4
M	%.00 0.00	80.08	549.07	12.1	7597	5020.7	a am	8 8	3.5		3 5	5 5	2010
•	120.00	240.00	\$49.38	12.1	0997	5044.6	1 4	8 9	3 2	8 2	0.5	200	
~	130.00	240.00	549.46		1237	\$006.6	, ,	3 5	3 5	3.44	0.7	7/04	2.00 E
•	110.00	210.00			4735	5148.5	1	3 5	3 5	× × × × × × × × × × × × × × × × × × ×	0.21	8/9	2000.0
~	8.6	200,00	549.10		4744	5138.2	^	8 8	3 5	7.6			7.1216
•	120.00	230.00			4.676	\$069.5	. 60	2	3 5	7. 67	9.5.6	ĝ	2.400
۰	100.00	110.00			4845	\$278.4		3 5	3 8	27.67	5.0		2.4.0
							•		:		;	3	7610.
	V		CORRECTIONS	<u>,</u>		1	6 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	V	8	CORRECTIONS	į		
READING	DRIFT	7106	DEPART	LA TÜE	FA/GB	G(UCALS)	READING	DRIFT	110E D	DEPART	LATDE	FA/GB G	c(UCALS)
4653.00	0.0	8	8	8	8	27 87.62						,	
W 24.7	67 6	8		,			8.545	8.0		8.	8		5278.35
2653 M	3 3	3 8	3 8	55.53	? :	5120.45	4721.00	·5.22		100.00	÷.3	-7.82 5	5118.87
	3 5	3 8	3	× × ×	9 9	3050.80	4652.00	-9.31		-130.00	-%. %.	-9.24 5	5040.00
		3 8	3 5	8.5	8.7	8.4	4692.00	-13.29		-110.00	-25.35	2.84 5	5103.88
3 ;	X :	3 3	3.00	8. 1	17.76	×000.3/	00.8297	-17.28	8.0	-120.00	-27.66	-0.71	5066.89
B. (C.	.5.55	8	90.8	5.5	9.40	5148.61	4701.00	¥.91-	8.0	-110.00	-25.35	4.26 5	5121.67
8.4.4	-6.17	8	8	×.	-7.82	5138.23	635.00	-2.2	8.0	-140.00			5034.34
676.00	-7.10	8.8	-120.08	-27.66		\$68	(M. 3697	¥. 90.					1
2							*****	(7.47	8.0	3.5	8.	2.13	5118.97

>>>													
PROCESAT: wdd9	e reddy		FILE: W	LE: wdd9.gpf			PROGRAM: udd10	odd)		FILE: wckd10.gpf	110.gpf		
EASE STAT	LASE STATION (X.Y.)	100 110	110				BASE STATION (X.Y)	(X,Y)	100 110	010			
REFERENCE ELEV.	ELEV.						REFERENCE ELEV.	ELEV.	549.21				
DEMSITY		1.8					DENSITY		1.8				
CRID ROTATION	TION	0					CRID ROTATION	8	0				
HETER FACTOR	TOR	1.08008	8				METER FACTOR	<u>8</u>	1.0000	8			
REFERENCE READING	E READING	1887					REFERENCE READING	READING	7887				
LATITUDE		0343000	•				LATITUDE		0343000				
LONGITUDE		9.0					BOUT 12001		9.0				
DATE		667090					DATE -		0604.99				
		FIELD DATA	DATA AND	AND RESULTS >			0 1 0 0 0 1 1 1		< FIELD	FIZLD DATA AND RESULTS >	ESULTS >-		
STATION	9000	COORD (X,Y)	ELEV	11.00	READIM	READING G(UGALS)	STATION	COCHD(X,Y)	K, Y)	ELEV	11 ME	READING	e(ncvr 8)
	180.00 100.00	110.00	549.21	14.6	7297	5278.4	-	100.00	110.00	549.21	15.3	\$3	5278.4
~	0.0	110.00	\$49.28	14.7	4713	5165.2	~	8.8	180.R	549.13	15.3	77.75	5165.0
m	8.8	130.00	\$49.45	14.8	4736	5197.2	n	80.08	240.00	\$49.14	15.4	1454	\$052.2
4	8.8	150.00	\$2.6%	14.9	4743	5184.7	•	30.00	220.00	549.10	15.4	8197	5016.0
~	8.8	8.0%	549.18	14.9	9097	5011.2	\$	8.0	190.00	\$49.36	15.5	8693	5136.3
9	50.00	220.00	\$49.23	15.0	44576	50%.7	•	8.8	170.00	349.16	15.6	4738	5191.6
~	20.00	210.00	549.27	15.1	29	5092.9	7	30.00	180.00	549.32	15.6	4714	5153.6
••	30.00	180.00	549.32	12.1	4774	5150.9	€0	30.00	210.00	549.00	15.7	\$	5102.8
•	100.00	110.00	549.21	15.3	23	2578.4	•	100.00	110.00	549.21	15.9	0287	5278.4
	V		CORRECTIONS	į			•	Y	8	CORRECTIONS	į		
READ LIKE	MIM	1106	DEPART	JAT26	8	a(ucals)	READING D	DRIFT T	7106 04	DEPART L	LATDE	5V5	C(UCALS)
682.00	8	8.0	8.0	8.0	8.	5278.35	82.53	0.00	8.0	0.0	8.0	8	5278.35
4713.00	0.42	8.	9.0	0.0	4.97	\$165.18	4742.00	-0.45	0.0		-18.44		5165.03
4736.(10	ς. Σ	9.0	-20.00	-4.61	17.05	5197.16	4447.00	50.1-			-28.8		5052.21
4743,(10	7.2	8.8	-40.00	-9.22	2.13	5184.69	4618.00	5.1.58		-140.00	-12.27	-8.03	5015.93
0()*909*	 S	8.8	-140.00	-32.27	-2.13	2011.23	00.6697	-2.55	9.0	-80.00	-18.44	10.42	5136.79
676.10	1.83	8.	-110.00	-25.35	1.18	\$0\$4.66	4738.00	-3.00	8.	-60.00	-13.83		5191.60
00,029	2.24	9.8	-100.00	23.93	8.	5092.91	4714.00	-3.45	8.0	.w.o	-16.13		5153.59
474.00	5.49	8.	8.8	-16.13	7.81	5150.89	69K.00	.s.8	8.8	-100.00	-23.05	-14.92	5102.79
685.10 01.00	3.24	8.0	0.0	8	8.8	5278.35	4820.00	-5.40			9.0		5278.35

			FILE: w	LE: wdd11.gpf			PROGRAM: wdd12	wdd12		FILE: W	FILE: wdd12.gpf		
BASE STATION (X,Y)	(X,Y)	100 110	110				FASS 57A1	PAGE STATION CY.Y.	100 110	110			
REFERENCE ELEV.	EV.	549.21	.				REFERENCE ELEV.	ELEV.	549.23				
DENSITY		1.8					DENSITY		1.8				
CRID ROTATION	*	0					CATO ROTATION	1011	0				
NETER FACTOR		1.06008	88				METER FACTOR	5	1.00008	8			
REFERENCE READING	ADTAG	7887					ONLOW SCHOOLS SE	DELOUIS .	7887	•			
LATITUDE		0343000	2				IATITUDE		0007700	9			
LONG! TUDE		80.0					POLITICAL		0	ì.			
DATE		080480					DATE		667090	•			
FIELD DATA		< FIELD		AND RESULTS >-					-< F1ELD	FIELD DATA AND RESULTS >	RESULTS >		
STATION	(x, x)	X,Y)	ELEV	T.	READING	G G(UGALS)	STATION	COORD(X,Y)	œ,r)	ELEY	#E	READ 1 NG	2 C(DCALS)
-	100.00	110.30	549.21	15.9	0297	5278.4	-	100,00	110.00	549.21	16.3	19	\$278.4
	0.0	100.00		15.9	677	5177.1	~	8	220,02		16.4	729	\$069.6
'n	10.00	130.00		15.9	11.27	5180.6	• •	00,00	8		16.4	37.33	\$22.9
•	20.00	13.00		16.0	4747	5176.7	→	60.09	240.00		16.5	3	\$633.5
'n	00.09	200.00	547.10	16.0	1981	5148.3	50	10.00	220.00		16.5	1534	5042.8
	8.09	260.00		16.1	1294	5025.1	•	8.8	37.00	\$49.34	16.5	55	\$127.8
	20.00	18. 8		16.1	12.1	5151.4	4	10.00	170,00	549,14	16.6	92.	\$109.9
€0	80.08	210.00	¥9.13	16.2	33	5093.2	••	8.0	130.00	549.19	16.6	149	5,280.7
~	100.00	110.00	549.21	16.3	25	5278.4	٠	100.00	110.00	549.21	16.7	0787	\$278.4
	¥	ğ	CORRECTIONS	į		* * * * *		Y		CORRECTIONS	i		
READING DRIFT		110E D	DEPART	LX10E	FX/8	פ(חפירצ)	PEAD!#G	DRIFT	T106	DEPART	LATDE	17VB	C(UCALS)
	0.00	0.0	8.0	9.0	9.0	5278.35	6635.00	8.0	8.0	9.0 0.0	8.0	8.	\$278.33
	2.42	9.0	10.00	2.30	9.9	\$177.09	4674.00	1.00	8.	-110.00	25.35	-8,53	\$2.690%
4711.00	3.63	0.0	-50.00	-4.61	28.18	5180.56	7938.00	3.1	9.0	-140.00	-32.27	-8.76	\$022.8
	5.44	0.0	90.09-	-13.83	3.5	5176.68	4644.00	2.20	0.0	-130.00	-28.88	-6.40	\$633.50
	6.65	9.0	-8 8	-20.74	-150.16	5148.31	4631.00	3.40	9.0	-110.00	-8.35	13.50	5042.76
	8.47	0.0	-130.00	8.8	-6.40	5025.07	4703.00	3.40	0.0	90.09	-13.83	9.X	5127.79
	10.28	8.0	-90.00	-18.44	-2.13	5151.37	4700.00	3.80	9.0	-60.00	-13.83	-4.97	\$109.X
	12.10	°.8	-100.00	3.5	1.18	5093.17	00.7383	97.7	8	8	17 7-	67 5-	ay 0465
									3	3			

PROGRAM: wdd13	Model 3		FILE:	E: wdd13.gpf			PROGRAM: wdd14	415ba		FILE: W	FILE: wdd14.gpf		
BASE STAT	BASE STATION (X,Y)		110				1100 671	A NO MOLECULAR ON NO.	61.	•			
110 10 10 10 10 10 10 10 10 10 10 10 10			;							2			
ACTERCAL	: ELEV.	7.44	.7.				REFERENCE ELEV.	E ELEV.	549.21				
DENSITY		₩.					DENSITY		1.8				
CAID ROTATION	VIION	0					CATO BOTATION	ATTO	•				
METER CATTOR		7	40040						•	,			
	5	5	3				METER FACTOR	3 015	1.08008	8			
REFERENCE READING	#EADING	7887					REFERENC	REFERENCE READING	1887				
LATITUDE		0343000	8				LATITUDE	***	0343000	8			
LONG! TUDI:	•••	8.0					E CHICATABLE	¥	8				
DATE		667090	\$				DATE-		000489	•			
		FIELD	DATA AM	FIELD DATA AND RESULTS >					-< FIELD	< FIELD DATA AND RESULTS >-	ESULTS >-		
STATION	(A'X)@BOOD	CK,Y)	ELEV	11 A	READING	פ פ(תפקדצ)	STATION	COCOND(X,Y)	α,τι	ELEV	1186	READ ING	COUCALS
-	100.00	110.00	5.65.2	7 74	1787	7 82.63	•	8					
~	15.00	X		•	į	2187	- •	3 3	3 5	249.61	? :	9	×12.
	8	5			2 67	* 75	y (3 3	3 3	X4.19	4.7	2	×
, ,	8 8	3 8				0.85.0	n ·	8	8.6	×8.8	17.4	1748	3.
, ,	8.6	3	344.0		\$V.	5116.8	•	8.8	5 60.8	\$49.24	17.5	101	265
^ .	9.5	20.00			999	4977.1	.	8.8	8 8 8	549.09	17.5	4748	2080.5
•	10.00	86.8			1 25	\$08.9	•	80.08	210.00	27.635	17.5	473	5114.0
~	8.8	160.00			4763	5170.2	~	8.0	20.00	549.28	17.6	2697	\$64.8
•0	8.8	240.00	97.675	5 17.2	1997	5059.7	•••	80.02	870.00	549.14	17.6	4712	\$62.2
٥	100.00 00.00	110.00			9987	\$278.4	•	100.00	110.00	549.21	17.7	1687	\$278.4
	Y	8	CORRECTIONS	i	***************************************			Y	8	CORRECTIONS	į		
READ!	DRIFT	T10E	DEPART	Z TZ	FA/08	G(UGALS)	READ ING	DRIFT	1106	DEPART	Z Z Z	24/08	COUCAL EX
:										:		- ;	
484).	8.	8.8	°.8		9.0	5278.35	4868.00	0.0	0.00	8.0	8	9.00	5278.35
4733.00	2.67	8	-15.00		2	5183.36	79.00	2.2	8.0		-32.27		\$63.8
6740.00	7.29	8.0	-50.00		6.3	5154.84	4748.00	9.14	8.0			-	20.00
4718.00	10.53	8.0	-30.00		2.61	5116.63	4706.00	11.73					5063.80
606.00	13.77	8.	-140.00		-1.42	4977.07	4748.00	14.36			-27.66		5086.20
4702.00	17.01	0.0	-90.00		6.30	5096.84	4753.00	18.27			2.5		5114.00
4763.00	10.¢¢	0.0	-50.00	-11.52	7.10	5170.24	00.0697	20.68			25.35	_	20,44
80.7897	25.68	0.0	-130.00	%. %.	3.55	5059.66	4712.00	24.80			-27.66		\$62.19
00.3987	30.00	0.0	8.0	8.0	9.	5278.35	4897.00	31.32			8.8		5278.33

PROGRAM: side1		FILE: 1	FILE: wdel.gpf			PROGRAM: wde2	3		FILE: N	FILE: wda2.gpf		
BASE STATION (X,Y)		100 110				BASE STA	LASE STATION (X,Y)	100 110	91			
REPENDENCE ELEV.	549.21	.21				REFERENCE ELEV.	E ELEV.	549.21	_			
ocupi ii	D					DENSITY		1.8				
CAID MOTATION	.					CRID NOTATION	ATION	0				
METER: PACION		1.08008				NETER FACTOR	C108	1.06008	8			
REFERENCE READING						REFERENC	REFERENCE READING	7887				
	0343000	8				LATITUDE		0343000				
LONGITUDE	8					JOHN TUDE	_	8.0				
DATE	080589	&				DATE		690990				
	אובת	< FIELD DATA AND RESULTS >	RESULTS >		8 8 9 9 9		:	FIELD DATA AND RESULTS >	DATA AND	RESULTS >		
STATION COC	COORD (X,Y)	ELEV	T	READ ING	e(news)	STATION	COCOND (X,Y)	(X,Y)	ELEV	1146	READING	פ פנחפארצ)
1 100.00	110.00	549.21	4.6	8467	\$278.4		00.001	910	14.02	0	807	7 24.63
2 80.00			8.5	4749	4996.1	. ~	00.0	160.00	3	0	3	2.0712
3.00 20.00				4813	\$059.8	m	8	115.00	249.31		23	\$157.2
90.00				ķ	5001.0	•	8.8	22.80	× 6×		\$33	\$152.9
8.8			8.7	476	5027.6	~	10.00	8.00	549.32	9.2	4719	4973.0
90.06			8.7	5983	5144.6	•	8.03	8.05	549.14	9.5	6087	5062.2
				283	5172.8	^	8.8	220.00	549.14	9.3	4.807	5060.0
				3	51%.4	•0	8.02	180.00	549.39	9.3	1387	\$132.8
9 180.80	8 10.8	549.21	9.0	4960	5273.4	٠	100.00	110.00	549.21	7.6	8267	\$278.4
•		CORRECTIONS	į				V	8	CORRECTIONS	ļ		
READING DRIFT	1106	DEPART	LATDE	8	e(newes)	READING	DRIFT	1106	DEPART	7,106	FA/G	GCUCALS)
							- 1					
			3 9	8	34/8.35	7,000.00	8.	8.	8.	8.	8.	5278.35
			-27.27	2	4976.09	4857.00	-0.X	0.0	30.00	-6.91	10.42	5149.34
			-57.66	-11.37	\$059.73	4862.00	-0.58	8.	-5.0	-1.15	6.86	5157.20
			-22.21		501.04	7625.00	٠. د.	8.8	-15.00	-3.46	12.31	\$152.7K
		•	22.21		5027.63	00.617	÷.	8.	-140.00	-32.27	7.81	4972.99
			79.	5.68 3.68	514.63	4909.00	-1.16	8.8	-120.00	-27.66	-4.97	\$062.19
		8 8	F :		5172.77	4007.00	-1.41		-120.00	-27.66	-5.21	\$0.090
_			٠. چ	13.97	5198.35	4847.00	-1.58	8.0	8.8	-16.13	12.67	5132.81
4960.10	9.00	8	8	8	5278.35	4978.00	-2.16	8.	9.0	9.0	9.0	\$278.35

PROCRAM: wde3	ņ		FILE: wde3.gpf	143.gp/			PROBLAM: wdak	1		FILE: wdad.gpf	1		
BASE STATION (X,Y)	CX,X	100 110	110				SASE STATION (X,Y)	(Y,Y) #0	100 110	10			
REFERENCE ELEV.	EV.	549.21	-				REFERENCE ELEV.	ELEV.	549.21				
DEWSITY		1.8					DEMSITY		1.8				
CRID ROTATION	¥	0					CRID ROTATION	101	0				
METER FACTOR		1.06008	8				HETER FACTOR	8	1.06008	£			
REFERENCE READING	AD 1 MG	7887					REFERENCE READING	READING	1987				
LATITUDE		0343000					LATITUE		0005750	_			
LONGITUDE		% 0.0					LONGITUDE		0.0				
DATE	, , , ,	080589	080589 FIELD DATA AND REMATE >-	, 21 HB4			DATE		96090 96090	080589 FIFED DATA AND BESILTS >	688.18 Y		
STATION	(Y,Y)	x,Y)	ELEV	T.	READ IN	READING G(UGALS)	STATION	0000(X,Y)	X,Y	ELEY	71 71	READ ING	e(ueal.s)
	8.8	110.00	549.21	4.6	267	5278.4		100.00 100.00	110.00	\$49.21	10.1	£¥3	X.E.X
8	8.8	220.00	549.20	9.5	4763	5013.5	8	8.8	8.00	249.22	10.1	3	5125.1
n	8.0	170.00	\$49.33	9.6	1967	5154.0	~	8.8	220.00	549.21	10.1	Ķ	1375.2
•	9.0	190.00	549.33	7.6	4817	5095.9	*	10.00	2 80.08	\$49.32	10.2	677	6941.0
ن	80.02	220.00	249.20	7.6	1927	5047.5	5	8.	8.02	276.73	10.2	473	5013.4
•	80.08	200.00	549.17	9.8	1484	5106.8	•	10.8	180.00	\$49.33	10.3	4805	5108.2
~	60.00	160.00	549.38	6.6	4879	5174.0	7	8.8	190.00	249.40	10.3	5	5136.4
10	8.8	170.00	276.20	6.6	4873	\$155.2	••	8.8	160.00	\$49.28	10.4	4816	5128.4
•	00.00	110.00	549.21	10.0	£073	5278.4	٥	100.00	110.00	549.21	10.6	4930	\$278.4
	Ĭ	8	CORRECTIONS	į		***************************************		¥	8	CORRECT TOWS	į		
READING DRIFT		110€ 0	DEPART	LATDE	8	CCOCMES)		DRIFT	1106 0	DEPART	LATDE	7.VS	C(DCALS)
OU 8207	8	8	90.0	8	98.0	5278.35	00 82.67	8	00.0	8	8	8.0	\$278.35
	9		00 071	72.27	\$	5013.52	00 7767	-6.77	8	00.00	22.02		5123.10
	8.0		9.09	-13.83	3,48	5153.98	.774.00	-9.41	8	-140.00	-32.27		4995.19
	-1.36	0.0	-80.00	-18.44	8.53	5095.91	4720.00	-12.54	°.8	-140.00	-22.27		477.8
	-1.7	0.0	-110.00	-8.33	6.3	5047.46	4738.00	-17.25	8	-120.00	-27.64		5013.38
	-2.05	8.0	8.8	.20.74	-2.84	5106.64	7905.00	-21.95	8.	-80.00	-18.44		\$108.19
	-2.30	0.0	-50.08	-11.52	11.04	5174.04	625.00	.X.8	9.0	-80.00	-18.44		5126.24
	-2.64	0.0	90.09	-13.83	· 0.7	5155.21	4816.00	£.62.	8.0	-\$0.88	-11.52		3128.44
6975.00	-3.24	9.0	0.0	8.8	8.0	52.78.35	4930.00	97.87	8.8	8.	8.0	8.8	\$278.35

			וננ: י	FILE: wde5.gp/				PROCESSIO	*			7		
											FILE: MOMO.gpf			
MSE ST	BASE STATION (X,Y)	100 110	110					SASE STATION OF Y	2	100	9			
REFERENCE ELEV.	Z ELEV.	549.21	21					75 12 30 30 30 30 30			2 .			
DEBILT		1.8						,		7.4	_			
CRID ROTATION	TATION	0						Ceie mari						
NETER FACTOR	ACTOR.	1.00008	8					ALD MOIALIUM	5 :	.	,			
REFERENCE	REFERENCE READING	7997						METER FACTOR	8	0000	SE SE			
LATITUE		0343000	8					ARPENEROR READING		9				
CONCIDE	¥	8	:					LATITUDE		0343000	_			
DATE		080589	•					LONGITUDE DATE -		90.0 060599				
		< FIELD DATA		AND RESULTS >			:			4 FIELD D	FIELD DATA AND REBUTS >	fauts >-		
STATICE	COORD(X,Y)	(x,r)	ELEV	11.00	READING	e ecuerus)	ŝ	\$TAT10K	00000(X,Y)	c,	ELEV	7. 7.	READING	C(DCALS)
••	100.00	110.00	549.21	10.6	92.63	7 8228								
~	30.00	8.8			5727	5	,	·· (8 9	110.00	249.21	11.2	183	2223.4
m	0.0	180.00		-	R	212		7 .	20.00	8 1	549.21	11.2	\$88	5211.3
4	9.0	170.00			044.7	5121		^	8.5	8	8. %	11.3	4827	5187.2
•^	10.00	210.00			K	¥ K 5		• •	00.00	8 9	X8.92	11.3	233	5173.9
•	10.00	23.00			4763	\$061.0		•	3 5	3 1	× 2	7:7	\$	2506.4
7	8.0	210.00			67.4	\$062.1		• •	3 8	8 5	249.39	7.	88	5230.6
•	100.00	170.80	549.14		9261	584.4		•	3	3.51	×6.4	11.4	0267	\$278.4
•	100.00	110.00	549.21		4931	5278.4	•		;	8	CORRECTIONS	į		
	*	8	CORRECTIONS					READING D	DRIFT TI	TIDE DE	DEPART	7. 2. 2. 2. 3. 3.	£4/68	Cincuis:
READ ING	DRIFT	710€ Q	DEPART	2 2 2 2 3	FX 8	e(nants)	•	4931.00	0.00	9.0	8	90.0	;	27 87.62
								4855.00	-1.40	8	5	18 21		, , , , , , , , , , , , , , , , , , ,
4930.00	8.0		8	8.	8.	5278.35		4827.00	67 1	8	8	3 3		3 2 2
4741.00	0.17		-120.00	-27.66	2.13	5048.51		700,000	2	8	8			
00.TK.	8 2.0		8 R	-16.13	10.66	\$122.46		00'5527	3	8	8			7.5.7
4780.00	9. %		90.09	-13.83	9.24	5121.06		00 9397	0	3 8	3 5			14.002
87.48	67.0	8.0	-100.00	-8.8	10. 6 5	5073.38		4020 M		3 8	3 8	7.66		20.00
4763.00	0.59	8	-120.00	-27.66	-8.76	5060.98		3	8	3	3	5	8	25/78.55
4730.00	2	8.0	-100.00	-23.05	3.55	5042.14								
4926.00	19.0	9.0	90.09	-13.83	16.4-	524.34								

Section	•													
	1		FILE: 1	FILE: wde8.gpf				PROGRAM: ude7	7		FILE	FILE: ude7.gpt		
LASE STA	EASE STATION (X.Y.)	100	110											
			?					V 2 2 2	MARE STATION (X,Y)		100			
REFERENCE ELEV.	ELEV.	7.7	5					REPERENCE ELEV.	E ELEV.	549.21	21			
DENSITY		1.8						DENSITY						
CRID ROTATION	ATION	0						CETO BOTATION	77.00					
METER FACTOR	CTOR	1.06008	8					MATER SALINE			5			
REFERENC	REFERENCE READING	4887							Market Market	3 4	8			
LATITUDE		025,3000	5								;			
LONG! TUDE	Ψ	0.0	?						-	25,500	8			
DATE		68080	•					DATE-		080599	•			
		-< FIELD DATA		AIO RESULTS >		•	:			< FIELD	DATA AND			
STATICM	COOMB(X,Y)	(X,Y)	ELEV	=======================================	READING	G G(UGALS)	(5)	STATION	2000	COCHEC(X,Y)	ELEV	T176	2E.AO 1 ING	e e(ucats)
-	100.00	110.00		17.9	8687	\$278.4	•	-	100.00	9 01	240 27	17.6		
~	120.00	10.00	\$49.05	18.0	7	5178.2	7.5	~	9	8				26/8.9
m	140.00	10.00	548.78	18.0	4.616	5172.3	'n	M	160.00	3 5				
•	160.00	50.00	548.46	18.1	6097	5214.5	5,	•	97				§ 3	
8	160.00	8.8	\$48.8	18.1	£87	\$220.9	6.	•	160.00			5 t	*	*
9	160.00	8.8	\$48.30	18.2	4877	5187.4	*	•	160,00	8	3			1000
~	156.00	8.8	248.62	18.2	8797	5177.4	4.	^	130.00	8	9		9 9	X IO.
₩0	150.00	10.00	546.33	18.3	4848	5155.4	*	•0	100,00	110.00	20.21		3 9	
٥	100.00	110.00	549.21	18.4	1567	5278.4	*							3510.4
	Y	8	CORRECTIONS	;					*		CORRECT TONS	ż		
READING	DRIFT	1105		1 ATOF	20/23	(2) (4) (5)		READING (DRIFT	1106	DEPART	LATRE	873	C(UCALS)
•			. !		2		•	4901.00	9.0	8.6	8.0	8	8	2 20
00)**	8.	8.8	9.0	8.0	0.0	5278.35		4854.00	.0.X	8	8	19.7		527 80 V
4500,00	4.8	8.	100.00	23.53	-11.37	5178.16		4.994.00	0.50	9.0	8	-11.52	-10.66	5269, 10
4818.00	11.11	8.0	100.00	8.8	-30.55	5172.25		4914.00	.0.83	8.0	8.03	2.6.	8	5200
00.6987	13.58	8.	80.09	13.83	-53.29	5214.51		4835.00	1.08	9.0	-80.00	-18.44	2.13	519C.bk
82.78	17.28	8.	00.0 7	9.22	-19.19	\$220.86		4846.00	1.41	8.	3.8	6.22	-19.19	5210.30
4877.00	8.8	8.8	8 .8	18.4	\$.2	5187.38		4860.00	-1.74	9.0	40.00	9.22	7.81	522.85
00.8787	24.69	9.0	8.8	20.74	-41.92	\$177.40		00.6667	-2.16	0.0	9.0	9.0	8	52.85.55
6348.00	28.39	0.0	00.00	23.55	-62.53	5155.40							}	

		٠>>	DATA SURGARY	WY >>>	*******			>>> _{**********************************}		DATA SUBURY	RY >>>====		••••••
PROGRAM: wdf3	5		FILE: 1	FILE: wdf3.gpf			PROGRA	PROGRAM: wdf4		FILE: wdf4.gpf	df4.gpf		
113 511	EAST STATICS OF Y	011 001	110				S SAM	LASE STATION CX.Y.	100 110	110			
BEFERENCE FLEV.	Y FLEV.	-					REFERE	REFERENCE ELEV.		.			
DEMSITY		9					DENSITY	*	1.8				
CRID NOTATION	ATLON	0					0185	GRID ROTATION	0				
METER FACTOR	CTOR	1.06008	8				METER	METER FACTOR	1.06008	8			
REFERENC	REFERENCE READING	1984					REFERE	REFERENCE READING	4887				
LATITUDE	***	0343000	0				LATITUE	*	0343000	8			
LONGITUDE	<u>~</u>	0.08					LONGITUDE	393	9.0				
DATE		689090					DATE	•	6605090	•			
		*** FIELD DATA		AND RESULTS >			•		FIELD	< FIELD DATA AND REBATS >	RESULTS >-		
STAT ION	3000	coot o (x, Y)	ELEV	11.00	READ ING	ğ	STATION		COORD(X,Y)	ELEV	1176	READING	COCALS
-	100.00	110.30	\$49.21	16.3	£893	5278.4	-	100.00	110.00	549.21	16.7	9067	5278.4
~	100.00		549.26	•	4819	5211.4	2	80.00	80.09	549.44	16.8	1837	5228.5
m	100.00	30.00	\$5.5%	16.4	X,	5186.5	n	0.0	80.09	543.28	16.8	£	5171.0
4	80.08	8.8	\$49.08		9287	5197.2	•	0.0	105.00		16.9	4811	5183.5
'n	60.03		549.43		4813	\$206.0	S	0.8			16.9	413	5162.1
•	0.0	150.00	\$6.2		72.7	5141.3	9	10.00			17.0	6997	4967.8
~	10.8	130.00	\$40.45		4766	5126.9	^	10.00			17.0	472	5061.4
€)	8.8	2 0.00	\$49.19		§	5017.2	•	110.00			17.1	4809	\$127.5
٥	8 2	240.00	549.27	•	1991	5012.4	•	90.08			17.1	4855	5214.2
2	100.00	110.00	12.632	16.7	6067	5278.4	10	100.00	110.00	549.21	17.3	4916	\$278.4
	•		CORRECTIOUS	À						CORRECTIONS	À		
RSAD1NG	VRIFT	1106	DEPART	LATOE	8	G'OCALS)	READING	DRIFY	1136	DEPART	LATDE	FA/CB	G(UCALS)
.895.00	8.0	0.0	8	8.0	8,0	\$278.35	00.9067	0.00	8.0	0.0	0.0	9.0	5278.35
4819.00	2.24	0.0	80.09	13.83	3.55	5211.41	00.7234	1.05	0.0	\$0.30	11.52	16.34	5228.48
474.8	3.%	0.0	80.00	18.44	2.72	5186.50	6775.00		0.00	50.00	11.52	16.4	5170.57
4826.00	5.0	0.0	60.09	9.23	-10.78	5197.22	4811.00	0 2.36	0.0	8.8	1.15	11.13	5183.51
4813.00	6.16	0.00	30.03	6.91	15.51	5206.05	6779.00	3.14	0.0	80.00	18.44	7.81	5162.13
4784.00	7.28	9.0	-40.00	.9.22	٠	5141.25	00.6997		8.	-140.00	-32.27	27.7	4967.75
4766.00		9.0	8.6	-16.13	13.50	5126.87	4726.00		. 8	-110.00	-25.35	8.	5061.39
7695.00	11.20		-140.00	-32.27	-1.66	5017.21	00.6087		0.0	-110.00	-25.35		5127.47
4684.00	12.32	8.0	-130.00	\$. \$.	4.26	5012.43	4653.00	7.07	°.8	-60.09	-13.83	13.97	5214.18
4909.00	15.12	9.0	°.8	8.	8.0	5278.35	4916.00	3.	9.0	0.0	9.0	8.0	52/8/35

******	>>> @		DATA SUBBURY			*****************************	>>> ₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀₀			DATA SUBBARY		*******************	
PROGRAM: wdf1	L J		FILE: wdf1.gpf	I11.8pf			PROGRAM: wdf2	442		FILE: wdf2.gpf	12.mpf		
	3	9	•					1		•			
× × ×			2				EASE STATION (A, 1)		3	2			
REFERENCE ELEV.	E ELEV.	549.21	_				REFERENCE ELEV.	ELEV.	\$49.21				
DEASITY		1.8					DENSITY		1.8				
GE 10 ROT	ATION	0					CRID ROTATION	101	0				
METER FACTOR	30t	1.06008	8				METER FACTOR	ğ	1.06008	•			
REFERENCE	REFERENCE READING	1887					REFERENCE READING	READING	1887				
LATITUDE		0343000	•				Self (A)		0004,3000				
LOVGITUDE	u	0.0					300110MO1		8.0				
DATE		689080					DATE		689090				
	FIELD DATA AND RESULTS >	· · FIELD	DATA AND I	ESULTS >					FIELD DATA AND RESULTS >	ATA AND R	ESULTS >		
STATION	2000	COORD (X,Y)	ELEV	1346	READ ING	(CUCALS)	STATION	COORD(X,Y)	(X,T)	ELEV	13	READ ING	CUCALS)
-	100.00	110.00	549.21	14.2	98 ,	5278.4	-	100.00	110.00	549.21	15.8	2963	\$278.4
~	130.00	8.8	549.32	14.3	4835	5226.1	۰ ،	110.00	110.00	549.31	15.8	4874	\$274.4
n	8.8	8.8	549.30	14.3	4849	5241.1	· m	130.00	160.00	549.17	15.9	967	\$257.3
4	130.00	80.00	\$49.23	14.4	4836	\$222.4	•	110.00	190.00	×6.24	15.9	0237	5189.7
~	170.00	00.05	548.23	14.4	4636	5160.2	•	20.00	180.00	\$49.14	16.0	1283	5184.7
•	140.00	150.00	549.30	14.4	1667	5271.1	•	8.8	180.00	27.02	16.0	498	5180.5
۲	160.00	120.00	\$49.05	14.5	64879	5248.2	7	20.00	160.00	549.31	16.1	121	5158.4
ex	130.00	110.00	\$49.15	14.5	9	5223.7	•0	60.03	160.00	549.38	16.1	4706	5166.1
٥	100.00	110.00	549.21	14.5	5687	\$278.4	٠	100.00	110.00	549.21	16.3	56	5278.4
	•		CORRECTIONS	i				Y		CORRECTIONS	į		
READING	DRIFT	1106 (DEPART	CATD€	FA/8	C(news)	READING	DRIFT	110€ 0	DEPART	LATDE	FA/8	(10cm s)
7,000,00	8.0	8.0	0.8	8.	8.0	5278.35	00"2387	0.0	8.0	8.0	8.0	0.0	5278.33
4835.00	-0.89	9.0	00.04	27.6	7.81	5226.07	00.4784	9	8.	0.0	9.0	7.10	\$274.44
00.6383	-2.22	0.0	70.00	9.22	6.39	5241.10	00'0087	3.46	0.0	-50.00	-11.52	-2.84	\$27.29
4036.00	-3.56	8.0	30.00	6.91	2.72	\$222.42	4820.00	4.32	0.0	-80.00	-18.44	2.13	51897.88
4836.00	-4.45	9.0	8.8	16.13	÷.	5160.17	4821.00	2.62	0.0	٠. 8.6	-16.13		5184.66
4891.00	·5.34	0.0	-40.00	-9.23	6.39	5271.14	4958.00	6.91	0.0	20.00	-16.13	-155.84	5180.47
4879.00	-6.23	9.0	-10.00	-2.30	-11.37	5248.22	4784.00	3.6	9.0	-50.00	-11.52	7.10	5158.36
4356.00	-7.12	8	0.0	0.0	-4.26	5233.68	4788.00	8.0	0.0	-50.00	-11.52	11.84	5166.12
4893.00	.7.8	0.00	0.0	0.0	0.0	5278.35	7965.00	12.98	0.0	9.0	0.00	9.0	5278.35

,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
SUMMARY
DATA
>>>

		IG G(UGALS)	5278.4	5155.0	5262.1	5129.4	5062.1	5020.6	5278.4		פנהפערצ)	5278.35	5155.01	5262.10	5129.36	5062.09	5020.61	5278.35
		READING	4935	4874	4919	4835	4763	4738	4950		FA/G	0.0	-78.39	-1.66	-10.89	4.02	-1.42	9.0
FILE: wdg1.gpf		RESULTS >	8.4	4.8	8.5	8.5	8.6	9.6	8.8	į	LATDE	0.0	23.05	6.91	-23.05	-25.35	-32.27	0.0
FILE: W	110 2008 000 6	FIELD DATA AND RESULTS .Y) ELEV TIM	549.21	548.11	549.19	249.06	549.27	549.19	549.21	CORRECTIONS	DEPART	0.0	100.00	30.00	-100.00	-110.00	-140.00	0.0
	100 549.; 1.8 0 1.084 4887 034300 90.0	< FIELD	110.00	10.00	80.08	210.00	220.00	250.00	110.00		TIDE C	9.0	0.00	0.0	0.0	9.0	9.0	0.00
redo 1	ELEV. LION TOR READING	9000	100.00	5.8 8	110.00	150.00	10.00	80.00	100.00	Y	DRIFT	8.0	2.11	4.23	7.8	9.16	11.27	16.20
PROGRAM: wdg1	BASE STATION (X,Y) REFERENCE ELEV. DENSITY GRID ROTAȚION METER FACTOR REFERENCE READING LATITUDE LOMGITUNE DATE	STATION	-	7	m	4	~	9	~		c	4935.00	4.874.00	4919.00	4835.00	4763.00	4733.00	4950.00